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101st Congress, 2d Session - - - - - - - - - - - House Report 101-1026

SUMMARY OF ACTIVITIES

OF THE

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY HOUSE OF REPRESENTATIVES

FOR THE

ONE HUNDRED FIRST CONGRESS

JANUARY 3, 1991

JANUARY 3, 1991.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

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LETTER OF TRANSMITTAL

HOUSE OF REPRESENTATIVES,
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY,
Washington, DC, January 3, 1991.

Hon. DONNALD K. ANDERSON,
The Clerk, House of Representatives,
Washington, DC.

DEAR MR. ANDERSON: In compliance with Rule XI, Clause 1(d) of the Rules of the House of Representatives, there is transmitted herewith the Summary of Activities of the Committee on Science, Space, and Technology for the 101st Congress.

The purpose of this report is to provide the Members of the House of Representatives, and the general public, with an overview of the legislative and oversight activities conducted by this committee, pursuant to Rule X, Clause 1(r) and Clause 3(f) of the Rules of the House of Representatives.

This document is intended as a general reference tool, and not as a substitute for the hearings records, reports, and other committee files.

Sincerely,

ROBERT A. ROE,
Chairman.

Enclosure.

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Union Calendar No. 616

101ST CONGRESS *2d Session* | HOUSE OF REPRESENTATIVES | REPORT 101-1026

SUMMARY OF ACTIVITIES—COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

JANUARY 3, 1991.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

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Mr. ROE, from the Committee on Science, Space, and Technology submitted the following

REPORT

HISTORY OF THE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

The Committee on Science, Space, and Technology has its roots in the intense reaction to the Soviet launch of Sputnik on October 4, 1957. Early in 1958 Speaker Sam Rayburn convened the House of Representatives, and the first order of the day was a resolution offered by Majority Leader John McCormack of Massachusetts. It read, "Resolved that there is hereby created a Select Committee on Astronautics and Space Exploration . . ."

The Select Committee performed its tasks with both speed and skill by writing the Space Act creating the National Aeronautics and Space Administration and chartering the permanent House Committee on Science and Astronautics, now known as the Committee on Science, Space, and Technology, with a jurisdiction comprising both science and space.

The Science and Astronautics Committee became the first standing committee to be established in the House of Representatives since 1946. It was also the first time since 1892 that the House and Senate had acted to create standing committees in an entirely new area.

The committee officially came into being on January 3, 1959, and on its 20th Anniversary the Honorable Charles Mosher said, the committee "was born of an extraordinary House-Senate joint leadership initiative, a determination to maintain American preeminence in science and technology, . . ."

The formal jurisdiction of the Committee on Science and Astronautics included outer space, both exploration and control, astronautical research and development, scientific research and development, science scholarships, and legislation relating to scientific agencies, especially the National Bureau of Standards, the National Aeronautics and Space Administration, the National Aeronautics and Space Council and the National Science Foundation.

The committee retained this jurisdiction from 1959 until the end of the 93rd Congress in 1974. While the committee's original emphasis in 1959 was almost exclusively astronautics, over this 15-year period the emphasis and workload expanded to encompass scientific research and development in general.

In 1974, a Select Committee on Committees, after extensive study, recommended several changes to the organization of the House in H. Res. 988, including expanding the jurisdiction of the Committee on Science and Astronautics, and changing its name to the Committee on Science and Technology.

To the general realm of scientific research and development was added energy, environmental, atmospheric, and civil aviation R&D. In addition, the new committee was given jurisdiction over the National Weather Service.

In addition to these legislative functions, the Committee on Science and Technology was assigned a "special oversight" function, giving it the exclusive responsibility among all Congressional standing committees to review and study, on a continuing basis, all laws, programs and government activities, involving Federal nonmilitary research and development.

In 1977, with the abolition of the Joint Committee on Atomic Energy, the committee was further assigned jurisdiction over civilian nuclear research and development thereby rounding out its jurisdiction for all civilian energy R&D.

A committee's jurisdiction gives it both a mandate and a focus. It is, however, the committee's chairman that gives it a unique character. The Committee on Science and Technology has had the good fortune to have five very talented and distinctly different chairmen, each very creative in his own way in directing the committee's activities.

Congressman Overton Brooks was the Science and Astronautics Committee's first chairman, and was a tireless worker on the committee's behalf for the two and one-half years he served as chairman.

When Brooks convened the first meeting of the new committee in January of 1959, committee Member Ken Hechler recalled, "There was a sense of destiny, a tingle of realization that every member was embarking on a voyage of discovery, to learn about the unknown, to point powerful telescopes toward the cosmos and unlock secrets of the universe, and to take part in a great experiment." With that spirit the committee began its work.

Brooks worked to develop closer ties between the Congress and the scientific community. On February 2, 1959, opening the first official hearing of the new committee Chairman Brooks said, "Although perhaps the principal focus of the hearings for the next several days will be on astronautics, it is important to recognize that this committee is concerned with scientific research across the

board." And so, from the beginning, the committee was concerned with the scope of its vision.

Overton Brooks died of a heart attack in September of 1961, and the chairmanship of the committee was assumed by Congressman George Miller of California.

Miller, a civil engineer, was unique among Members of Congress who rarely come to the legislature with a technical or scientific background. He had a deep interest in science, and his influence was clearly apparent in the broadening of the charter of the National Science Foundation and the establishment of the Office of Technology Assessment. He pioneered in building strong relationships with leaders of science in other nations. This work developed the focus for a new subcommittee established during his chairmanship, known as the Subcommittee on Science, Research and Development.

Just a few months before Miller became Chairman, President John F. Kennedy announced to a joint session of Congress the national commitment to land a man on the moon and return him safely to Earth before the end of the decade. Thus, during Miller's 11-year tenure as chairman, the committee directed its main efforts toward the development of the space program.

Chairman Miller was not releelected in the the election of 1972, so in January of 1973, Olin E. Teague of Texas took over the helm of the committee. Teague, a man of directness and determination, was a highly decorated hero of the second World War. He was a long-standing Member of Congress and Chairman of the Veterans Committee before taking over the chairmanship of the Science and Technology Committee.

Throughout the 1960's and early 1970's, Teague chaired the Science Committee's Manned Space Flight Subcommittee, and in that capacity firmly directed the efforts to send a man to the moon.

As chairman of the committee, Teague placed heavy emphasis on educating the Congress and the public on the practical value of space. He also prodded NASA to focus on the industrial and human applications of the space program.

One of Teague's first decisions as chairman was to set up a subcommittee on energy. During his six-year leaderhip of the committee, energy research and development became a major part of the committee's responsibilities.

In 1976, Chairman Teague saw the fruition of three years of intensive committee work to establish a permanent presence for science in the White House. The Office of Science and Technology Policy was established with a Director who would also serve as the President's Science Advisor.

Throughout his leadership, he voiced constant concern that the complicated technical issues the committee considered be expressed in clear and simple terms so that Members of Congress, as well as the general public, would understand the issues.

After six years as Chairman, Teague retired from the committee and the Congress due to serious health problems. He was succeeded by Don Fuqua, a representative from northern Florida.

Fuqua became Chairman on January 24, 1979, at the beginning of the 96th Congress and was the youngest Member to succeed to the committee's chairmanship.

Don Fuqua came to the Congress after two terms in the Florida State Legislature and was, at age 29, the youngest Democrat in Congress when he was elected in 1972.

Fuqua's experience on the committee dated back to the first day of his Congressional service. Since 1963, he had served as a Member of the Committee's Manned Space Flight Subcommittee. When Olin Teague became chairman of the committee in 1973, Fuqua took Teague's place as chairman of the subcommittee.

As the subcommittee chairman he was responsible for major development decisions on the Space Shuttle and the successful Apollo-Soyuz link-up in space beteen American astronauts and Soviet cosmonauts. Later, the subcommittee's responsibility was expanded to cover all other NASA activities and was renamed the Subcommittee on Space Science and Applications.

As Chairman of the committee, Fuqua's leadership could be seen in the expansion of committee activities to include technological innovation, science and math education, materials policy, robotics, technical manpower, and nuclear waste disposal. He worked to strengthen the committee's ties with the scientific and technical communities to assure that the committee was kept abreast of current developments, and could better plan for the future.

During the 99th Congress, the Science and Technology Committee, under Fuqua's chairmanship, carried out two activities of special note.

The first was the initiation of a study of the nation's science policy encompassing the 40-year period between the end of the second World War and the present. The intent was to identify strengths and weaknesses in our nation's science network. At the end of the 99th Congress, Chairman Fuqua issued a personal compilation of essays and recommendations on American science and science policy issues in the form of a Chairman's Report.

The second activity was a direct outgrowth of the Space Shuttle "Challenger" accident of January 28, 1986. As part of the committee's jurisdictional responsibility over all the NASA programs and policies, a steering group of committee Members, headed by Congressman Robert Roe, the ranking Majority Member, conducted an intensive investigation of the Shuttle accident. The committee's purpose and responsibility were not only the specific concern for the safe and effective functioning of the Space Shuttle program, but the larger objective of insuring that NASA, as the nation's civilian space agency, maintain organizational and programmatic excellence across the board.

Chairman Fuqua announced his retirement from the House of Representatives at the termination of the 99th Congress. He served 24 years on the Committee on Science and Technology and 8 years as its chairman.

Congressman Robert A. Roe of New Jersey a long-time Member of the Committee, became its new Chairman at the beginning of the 100th Congress. With this fifth Chairman, the Committee was once again presided over by an individual with professional technical expertise. Congressman Roe was trained as an engineer and brought that broad knowledge and understanding to bear on the Committee's issues from the first day of his tenure.

Congressman Roe's first official act as Chairman was to request a change in the Committee's name from the Committee on Science and Technology to the Committee on Science, Space, and Technology. This change was designed not only to reflect the Committee's broad space jurisdiction, but also to convey the importance of space exploration and development to the Nation's future.

In the 100th Congress, under Chairman Roe's stewardship, the Committee kept close scrutiny over NASA's efforts to redesign and reestablish the space shuttle program. The successful launch of the Shuttle Discovery in September, 1988 marked America's return to space after 32 months without launch capability.

Both the vulnerability of having the nation's launch capability concentrated singularly in the Space Shuttle, and the rapid increase of foreign competition in commercial space activities, precipitated strong Committee action to help ensure the competitive posture of the nation's emerging commercial launch industry.

Chairman Roe's leadership to stabilize and direct the nation's space program led to the Committee's first phase of multi-year authorizations for research and development programs with the advent of three year funding levels for the Space Station.

Within the national movement to improve America's techological competitiveness, Chairman Roe headed the Committee's initiative to expand and redefine the mission of the National Bureau of Standards [1] in order for it to aid American industry in meeting global technological challenges.

The Science Committee has a long tradition of alerting the Congress and the nation to new scientific and technological opportunities that have potential to create dramatic economic or societal change. Among these have been recombinant DNA research and supercomputer technology. In the 100th Congress, Members of the Committee included the new breakthroughs in superconductivity research in this category.

Several long-term efforts of the Committee came to fruition during the 101st Congress. As the community of space-faring nations expanded, and as space exploration and development moved toward potential commercialization in some areas, the need arose for legal certainty concerning intellectual property rights in space. Legislation long advocated by the Science Committee defining the ownership of inventions in outer space became public law during this Congress.

Continuing the Committee's objective to establish long range energy research programs for renewable and alternative energy sources, a national hydrogen research and development program was established to lead to economic production of hydrogen from renewable resources and its use as an alternative fuel.

Under Chairman Roe's leadership, the Science, Space, and Technology Committee successfully concluded a number of major environmental research initiatives during the 101st Congress. After more than 16 years of development, landmark oil pollution prevention, liability, and compensation legislation became law, including a major research and development title which originated in the

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[1] Now named the National Institute of Standards and Technology (NIST) (P.L. 100-418, Title V, Part B, Subpart A, Sections 5111 through 5163, enacted August 23, 1988.)

Committee. In similar fashion, Committee-sponsored legislation establishing significant new research and development authorities within the United States Environmental Protection Agency relating to air pollution effects and minimization was included as a separate title of 1990's first reauthorization of the Clean Air Act in 13 years. The Committee also helped perfect language establishing a new Strategic Environmental Research and Development Program in the National Defense Authorization Act for Fiscal Year 1991 and creating significant new global climate change research and prevention authorities within the Department of Agriculture as part of the 1990 Farm Bill.

During the decade of the eighties, global environmental concerns increasingly focused on the depletion of the earth's ozone layer and the growing levels of greenhouse gases in the Earth's atmosphere and their implications for global climate change. In an effort to better understand various issues of global change, the Committee established a mechanism for coordinating the Federal government's global change research efforts and for providing international protocols for global change research and innovative energy technology research.

Just prior to the end of the 101st Congress, the Committee achieved another long-term objective with the signing into law of the Congressional Scholarships for Science, Mathematics, and Engineering Act. This critically important legislation will strengthen the science and technology base of the United States by aiding talented and interested young people in pursuing their post-secondary education in science, mathematics, and engineering.

During Congressman Roe's chairmanship, great legislative progress was made by the Committee in a number of other areas, laying the foundation for further action and new public laws in the 102nd Congress. The House overwhelmingly passed the Committee's Superconducting Super Collider Project Authorization Act to authorize the research, development, design, and construction of the world's most advanced proton accelerator facility. The House also overwhelmingly passed legislation developed by the Committee, the American Technology Preeminence Act, to significantly enhance the global competitive position of the United States through application of the results of Federal research and development. The Committee also developed, and favorably acted on, bills addressing indoor air quality research and development and the conservation of biological diversity, paving the way for finalization of these bills in the future.

At the end of the 101st Congress, the House Democratic Caucus voted Representative Roe Chairman of the Public Works and Transportation Committee to fill the vacancy in that Committee's Chairmanship.

Congressman Roe, who served as Chairman of the Science, Space, and Technology for the 100th and the 101st Congresses, brought a leadership style of high energy and strong enthusiasm to the Committee. He was known for his tenacious commitment to understanding an issue down to its smallest detail.

The hallmark of Representative Roe's four-year tenure as Chairman was his articulation of science, space, and technology as the well-spring for generating the new wealth for America's future economic and long-term security.

COMMITTEE MEMBERSHIP, 101ST CONGRESS 1989-1990

ROBERT A. ROE, New Jersey, *Chairman*

GEORGE E. BROWN, JR., California
JAMES H. SCHEUER, New York
MARILYN LLOYD, Tennessee
DOUG WALGREN, Pennsylvania
DAN GLICKMAN, Kansas
HAROLD L. VOLKMER, Missouri
HOWARD WOLPE, Michigan
BILL NELSON, Florida
RALPH M. HALL, Texas
DAVE McCURDY, Oklahoma
NORMAN Y. MINETA, California
TIM VALENTINE, North Carolina
ROBERT G. TORRICELLI, New Jersey
RICK BOUCHER, Virginia
TERRY BRUCE, Illinois
RICHARD H. STALLINGS, Idaho
JAMES A. TRAFICANT, JR., Ohio
LEE H. HAMILTON, Indiana
HENRY J. NOWAK, New York
CARL C. PERKINS, Kentucky
TOM McMILLEN, Maryland
DAVID E. PRICE, North Carolina
DAVID R. NAGLE, Iowa
JIMMY HAYES, Louisiana
DAVID E. SKAGGS, Colorado
JERRY F. COSTELLO, Illinois
HARRY JOHNSTON, Florida
JOHN TANNER, Tennessee
GLEN BROWDER, Alabama

ROBERT S. WALKER, Pennsylvania
F. JAMES SENSENBRENNER, JR., Wisconsin
CLAUDINE SCHNEIDER, Rhode Island
SHERWOOD L. BOEHLERT, New York
TOM LEWIS, Florida
DON RITTER, Pennsylvania
SID MORRISON, Washington
RON PACKARD, California
PAUL B. HENRY, Michigan
HARRIS W. FAWELL, Illinois
D. FRENCH SLAUGHTER, JR., Virginia
LAMAR SMITH, Texas
JACK BUECHNER, Missouri
CONSTANCE A. MORELLA, Maryland
CHRISTOPHER SHAYS, Connecticut
DANA ROHRABACHER, California
STEVEN H. SCHIFF, New Mexico
TOM CAMPBELL, California
JOHN J. RHODES III, Arizona

HISTORY OF APPOINTMENTS

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

ONE HUNDRED FIRST CONGRESS

Robert A. Roe, New Jersey, was elected Chairman of the Committee on Science, Space, and Technology on January 3, 1989, pursuant to H.Res. 10. The following Members were elected to the Committee on January 19, 1989, pursuant to H.Res. 39: George E. Brown, Jr., California; James H. Scheuer, New York; Marilyn Lloyd, Tennessee; Doug Walgren, Pennsylvania; Dan Glickman, Kansas; Harold L. Volkmer, Missouri; Howard Wolpe, Michigan; Bill Nelson, Florida; Ralph M. Hall, Texas; Dave McCurdy, Oklahoma; Norman Y. Mineta, California; Tim Valentine, North Carolina; Robert G. Torricelli, New Jersey; Rick Boucher, Virgina; Terry L. Bruce, Illinois; Richard H. Stallings, Idaho; James A. Traficant, Ohio; Lee H. Hamilton, Indiana; Henry J. Nowak, New York; Carl C. Perkins, Kentucky; Tom McMillen, Maryland; David E. Price, North Carolina; David R. Nagle, Iowa; Jimmy Hayes, Louisiana; David E. Skaggs, Colorado; Jerry F. Costello, Illinois; Harry F. Johnston, Florida; John Tanner, Tennessee.

The following Members were elected on January 20, 1989, pursuant to H.Res. 45: Robert S. Walker, Pennsylvania; F. James Sensenbrenner, Jr., Wisconsin; Claudine Schneider, Rhode Island; Sherwood L. Boehlert, New York; Tom Lewis, Florida; Don Ritter, Pennsylvania; Sid Morrison, Washington; Ron Packard, California; Robert C. Smith, New Hampshire; Paul B. Henry, Michigan; Harris W. Fawell, Illinois; D. French Slaughter, Jr., Virginia; Lamar Smith, Texas; Jack Buechner, Missouri; Constance A. Morella, Maryland; Christopher Shays, Connecticut; Dana Rohrabacher, California; Steven H. Schiff, New Mexico; Tom Campbell, California.

Glen Browder, Alabama, elected April 27, 1989, H.Res. 142.

Robert C. Smith, New Hampshire, resigned March 7, 1990.

John J. Rhodes III, Arizona, elected March 7, 1990, H.Res. 352.

LEGISLATIVE AND OVERSIGHT JURISDICTION OF THE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

"RULE X. ESTABLISHMENT AND JURISDICTION OF STANDING COMMITTEES

"The Committees and Their Jurisdiction

"1. There shall be in the House the following standing committees, each of which shall have the jurisdiction and related functions assigned to it by this clause and clauses 2, 3, and 4; and all bills, resolutions, and other matters relating to subjects within the jurisdiction of any standing committee as listed in this clause shall (in accordance with and subject to clause 5) be referred to such committees, as follows:

* * * * * * *

"(r) Committee on Science, Space, and Technology.

"(1) Astronautical research and development, including resources, personnel, equipment, and facilities.

"(2) Bureau of Standards, standardization of weights and measures and the metric system.

"(3) National Aeronautics and Space Administration.

"(4) National Aeronautics and Space Council.

"(5) National Science Foundation.

"(6) Outer space, including exploration and control thereof.

"(7) Science scholarships.

"(8) Scientific research and development, and demonstration, and projects therefor, and all federally owned or operated nonmilitary energy laboratories.

"(9) Civil aviation research and development.

"(10) Environmental research and development.

"(11) All energy research, development, and demonstration, and projects therefor, and all federally owned or operated nonmilitary energy laboratories.

"(12) National Weather Service.

"In addition to its legislative jurisdiction under the preceding provisions of this paragraph (and its general oversight function under clause 2(b)(1)), the committee shall have the special oversight functions provided for in clause 3(f) with respect to all nonmilitary research and development."

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"SPECIAL OVERSIGHT FUNCTIONS

"3. (f) The Committee on Science, Space, and Technology shall have the function of reviewing and studying, on a continuing basis, all laws, programs, and Government activities dealing with or involving nonmilitary research and development."

ONE HUNDRED FIRST CONGRESS

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

SUBCOMMITTEE MEMBERSHIPS AND THE JURISDICTIONS

SUBCOMMITTEE ON INVESTIGATIONS AND OVERSIGHT

ROBERT A. ROE, New Jersey, *Chairman*

JOHN TANNER, Tennessee
JIMMY HAYES, Louisiana
TERRY L. BRUCE, Illinois
HARRY JOHNSTON, Florida
DON RITTER, Pennsylvania
SHERWOOD L. BOEHLERT, New York

GREG SIMON, *Staff Director and Counsel*

Jurisdiction: Review and study, on a continuing basis, of the application, administration, execution, and effectiveness of those laws, or parts of laws, the subject matter of which is within the jurisdiction of the committee and the organization and operation of the Federal and private agencies and entities having responsibilities in or for the administration and execution thereof, in order to determine whether such laws and the programs thereunder are being implemented and carried out in accordance with the intent of the Congress. In addition, the Subcommittee on Investigations and Oversight and the appropriate subcommittee with legislative authority may cooperatively review and study any conditions or circumstances which indicate the necessity or desirability of enacting new or additional legislation within the jurisdiction of the committee, and may undertake futures research and forecasting on matters within the jurisdiction of the committee. The Subcommittee on Investigations and Oversight shall in no way limit the responsibility of other subcommittees from carrying out their oversight responsibilities, nor shall any investigation be undertaken by the Subcommittee on Investigations and Oversight without (a) consultation with the Chairman of the appropriate subcommittee with legislative authority and (b) approval of the Chairman of the committee.

SUBCOMMITTEE ON NATURAL RESOURCES, AGRICULTURE, RESEARCH AND ENVIRONMENT

JAMES H. SCHEUER, New York, *Chairman*

HENRY J. NOWAK, New York
JOHN TANNER, Tennessee
GEORGE E. BROWN, JR., California
HOWARD WOLPE, Michigan
DAVE McCURDY, Oklahoma
TIM VALENTINE, North Carolina
TOM McMILLEN, Maryland
DAVID E. PRICE, North Carolina
DAVID E. SKAGGS, Colorado
CLAUDINE SCHNEIDER, Rhode Island
SID MORRISON, Washington
CHRISTOPHER SHAYS, Connecticut
ROBERT C. SMITH, New Hampshire [1]
PAUL B. HENRY, Michigan
LAMAR SMITH, Texas
CONSTANCE A. MORELLA, Maryland [2]

MICHAEL RODEMEYER, *Staff Director and Counsel*

Jurisdiction: Legislation, general and special oversight and all other matters relating to natural resources, including, but not limited to, water research, and, to the extent appropriate, agriculture R&D and population; legislation, risk assessment and other matters relating to environmental research and development generally—including, but not limited to, research and development activities of the Environmental Protection Agency; environmental health, safety, life sciences, pharmaceutical, medical, and biotechnology activities of Executive departments and agencies, as appropriate; the National Whether Service; operational and research and development activities related to the atmosphere (including meteorology, aeronomy, cli-

mate, weather modification); those ocean R&D activities related to the quality and management of the environment of the National Oceanic and Atmospheric Administration; and operations of earth observing systems (except for SARSAT).

[1] Resigned from Committee March 7, 1990.
[2] Appointed to Subcommittee May 23, 1990.

SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT

MARILYN LLOYD, Tennessee, *Chairman*

RICK BOUCHER, Virginia
TERRY L. BRUCE, Illinois
JERRY F. COSTELLO, Illinois
DOUG WALGREN, Pennsylvania
RICHARD H. STALLINGS, Idaho
JAMES A. TRAFICANT, JR., Ohio
HOWARD WOLPE, Michigan
TIM VALENTINE, North Carolina
SID MORRISON, Michigan
HARRIS W. FAWELL, Illinois
STEVEN H. SCHIFF, New Mexico
LAMAR SMITH, Texas
JACK BUECHNER, Missouri [3]

FRANCIS X. MURRAY, *Staff Director*

Jurisdiction: Legislation, general and special oversight and all other matters relating to all energy R&D and projects therefore; all federally owned or operated nonmilitary energy laboratories; basic energy sciences; high energy and nuclear physics; policy and management programs of the Department of Energy; and uranimum enrichment and waste management activities, as appropriate.

[3] Appointed to Subcommittee October 19, 1989.

SUBCOMMITTEE ON SPACE SCIENCE AND APPLICATIONS

BILL NELSON, Florida, *Chairman*

HAROLD L. VOLKMER, Missouri
NORMAN Y. MINETA, California
ROBERT G. TORRICELLI, New Jersey
RICHARD H. STALLINGS, Idaho
JAMES A. TRAFICANT, JR., Ohio
CARL C. PERKINS, Kentucky
TOM McMILLEN, Maryland
DAVID R. NAGLE, Iowa
JIMMY HAYES, Louisiana
DAVID E. SKAGGS, Colorado
HARRY JOHNSTON, Florida
JAMES H. SCHEUER, New York
MARILYN LLOYD, Tennessee
RALPH M. HALL, Texas
JOHN TANNER, Tennessee
GLEN BROWDER, Alabama [4]
F. JAMES SENSENBRENNER, JR., Wisconsin
TOM LEWIS, Florida
RON PACKARD, California
ROBERT C. SMITH, New Hampshire [5]
D. FRENCH SLAUGHTER, JR., Virginia
LAMAR SMITH, Texas
JACK BUECHNER, Missouri
DANA ROHRABACHER, California
CONSTANCE A. MORELLA, Maryland [6]
STEVEN H. SCHIFF, New Mexico
PAUL B. HENRY, Michigan [7]
JOHN J. RHODES III, Arizona [8]

WILLIAM S. SMITH, *Staff Director*

Jurisdiction: Legislation, general and special oversight and all other matters relating to the National Aeronautics and Space Administration (except aeronautical research and technology); commercial space activities relating to the Department of Transportation and the Department of Commerce; outer space, including exploration and control thereof, space applications, space commercialization, space communications and related matters; and research and development of earth observing systems.

[4] Appointed to Subcommittee July 26, 1990.
[5] Resigned from Committee March 7, 1990.
[6] Resigned Subcommittee May 23, 1990.
[7] Appointed to Subcommittee October 19, 1990.
[8] Appointed to Subcommittee March 21, 1990.

Subcommittee on International Scientific Cooperation

RALPH M. HALL, Texas, *Chairman*

ROBERT G. TORRICELLI, New Jersey
LEE H. HAMILTON, Indiana
GEORGE E. BROWN, Jr., California
JAMES H. SCHEUER, New York
RON PACKARD, California
F. JAMES SENSENBRENNER, Jr., Wisconsin
HARRIS W. FAWELL, Illinois

Robert E. Palmer, *Staff Director*

Jurisdiction: International scientific cooperation; international technology transfer; international cooperative R&D (including global change, space station, nuclear and non-nuclear energy, the superconducting super collider, and international cooperative funding therefore); international scientific and technological competitiveness; international information and communications policy (including scientific data banks, technical communication and translation, and SARSAT); resolutions of joint cooperation with other national parliamentary committees on science and technology; international trade policy and its effect on science and technology and on R&D; international agricultural policy (including the international implications of genetic engineering) and international intellectual property rights.

Subcommittee on Science, Research and Technology

TIM VALENTINE, North Carolina, *Chairman* [10]
DOUG WALGREN, Pennsylvania, *Chairman* [11]

GEORGE E. BROWN, Jr., California
HOWARD WOLPE, Michigan
LEE H. HAMILTON, Indiana
DAVID E. PRICE, North Carolina
NORMAN Y. MINETA, California
TERRY L. BRUCE, Illinois
DAVID R. NAGLE, Iowa
DAVID E. SKAGGS, Colorado
JERRY F. COSTELLO, Illinois
HARRY JOHNSTON, Florida
JIMMY HAYES, Louisiana
GLEN BROWDER, Alabama [9]
SHERWOOD L. BOEHLERT, New York
CLAUDINE SCHNEIDER, Rhode Island
DON RITTER, Pennsylvania
PAUL B. HENRY, Michigan
CONSTANCE A. MORELLA, Maryland
TOM CAMPBELL, California
D. FRENCH SLAUGHTER, Virginia
JACK BUECHNER, Missouri
JOHN J. RHODES III, Arizona [12]

Grace L. Ostenso, *Staff Director*

Jurisdiction: Legislation, general and special oversight and all other matters relating to the National Science Foundation; the Technology Administration in the Department of Commerce, including the National Institute of Standards and Technology and the National Technical Information Service; the Office of Science and Technology Policy; the Office of Technology Assessment; scientific research and development and applications; science policy; scientific resources (including manpower); science education; science information and information sciences; techology transfer; technology assessment; innovation and industrial R&D; productivity and competitiveness; standards and standardization of measurement; patent policies as they relate to Federal research and development programs; R&D involving governmental health, nutritional and handicapped programs; intergovernmental mechanisms for R&D, geographic distribution of Federal R&D; and tax policy and the effect on R&D.

[9] Appointed to Subcommittee July 26, 1989.
[10] Elected Subcommittee Chairman March 6, 1990.
[11] Resigned Subcommittee Chairmanship March 1, 1990.
[12] Appointed to Subcommittee March 21, 1990.

Subcommittee on Transportation, Aviation and Materials

ROBERT G. TORRICELLI, New Hampshire, *Chairman* [13]
TIM VALENTINE, North Carolina, *Chairman* [14]

DAVE GLICKMAN, Kansas
DAN McCURDY, Oklahoma
BILL NELSON, Florida
TOM McMILLEN, Maryland
GEORGE E. BROWN, Jr., California
(Vacancy)
TOM LEWIS, Washington
CHRISTOPHER SHAYS, Connecticut
DANA ROHRABACHER, California
TOM CAMPBELL, California
Anthony C. Taylor, *Staff Director*

Jurisdiction: Legislation, general and special oversight and all other matters relating to civil aviation R&D (includes aeronautical research and technology programs of the National Aeronautics and Space Administration and research and development programs of the Federal Aviation Administration); transportation programs of the Department of Energy; aviation-weather services; materials R&D and national materials policies, both domestic and international; oversight of surface transportation research and development programs of the Department of Transportation, Urban Mass Transportation Administration, Federal Railroad Administration, Federal Highway Administration, National Highway Traffic Safety Administration, and Coast Guard and the Maritime Administration; oversight of research and development in communications other than that for which the Subcommittee on Space Science and Applications is responsible.

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[13] Elected Subcommittee Chairman March 6, 1990.

[14] Resigned as Subcommittee Chairman and Member March 6, 1990.

The Chairman and Ranking Republican Member shall serve as ex officio members of all subcommittees and shall have the right to vote on all matters before the subcommittee, subject to the provisions of Rule 28 of the Committee Rules Governing Procedure.

CHAPTER I—LEGISLATIVE ACTIVITIES OF THE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

During the 101st Congress, 189 bills were referred to the Committee on Science, Space, and Technology, Committee interests were incorporated during floor consideration or at the conference stage of 6 measures; 46 bills were reported to the House; 41 measures passed the House; and 26 measures were enacted.

1.1—P.L. 101-48, TO AUTHORIZE THE PRESIDENT TO APPOINT REAR ADMIRAL RICHARD HARRISON TRULY TO THE OFFICE OF ADMINISTRATOR OF THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (H.R. 2716, S. 1180)

To authorize the President to appoint Rear Admiral Richard Harrison Truly to the Office of Administrator of the National Aeronautics and Space Administration.

Summary and Background of Legislation

H.R. 2716 provides an unconditional waiver from the civilian requirement of the National Aeronautics and Space Act of 1958. The proposal became necessary because of the requirement in Section 202 of the National Aeronautics and Space Act of 1958 that NASA ". . . shall be headed by an Administrator, who shall be appointed from civilian life by the President. . . ." Coincident with this, Richard H. Truly retired from active duty effective July 1, 1989.

The legislation provides a one-time waiver from the requirement for Richard H. Truly as a retired military officer. This waiver is coupled with additional provisions that establish a clear separation from conflict of interest arising out of supervision, control, restrictions or prohibitions associated with the military. The Committee concluded that Admiral Truly's military status did not constitute an unacceptable conflict of interest and would not be detrimental to purposes of the National Aeronautics and Space Act that control of the space program be in civilian hands.

Section 1 waives the requirements of Section 2472(a) of title 42, United States Code, that the Administrator of NASA be appointed from civilian life. This section further provides that any service as NASA administrator shall not affect his retirement status or rank or grade nor any emolument, perquisite, right, privilege or benefit he might otherwise receive except to the extent his retired pay is limited by the Deal Compensation Act subchapter IV of Chapter 55 of Title 5, United States Code.

Section 2 makes clear that Admiral Truly, in the performance of his duties as the Administrator, will not be subject to any supervision or control or be under the jurisdiction of any military or other authority, except those that are normally applicable to the NASA Administrator. This makes clear that Admiral Truly will function

as Administrator in the traditional sense, subject to the same supervisory controls as other Administrators. To ensure this, the applicability of any military or other controls on members of the retired list of the United States Navy (for example, potential recall to the active duty or conformance to the Uniform Code of Military Justice) is suspended for the duration of his service as NASA Administrator.

Section 3 makes clear that it is the intent of Congress that this action shall not be a precedent for future appointments to the Office of the NASA Administrator.

Legislative History

On June 22, 1989, a draft bill was used for a markup held by the Subcommittee on Space Science and Applications. There were no amendments. Immediately following the markup, Mr. Nelson (for himself and Mr. Mineta) introduced H.R. 2716 which was referred solely to the Committee on Science, Space, and Technology.

H.R. 2716 is identical to S. 1180, the Senate companion measure which passed the Senate without amendments by voice vote on June 21, 1989. S. 1180 was received in the House and passed on June 22, 1989.

Public Law 101-48 was signed by the President on June 30, 1989.

1.2—P.L. 101-189, NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEARS 1990-1991 (H.R. 2461)

Authorizing appropriations for Fiscal Year 1990 for military activities of the Department of Defense, for military construction, and for defense activities of the Department of Energy, to prescribe personnel strengths for such Fiscal Year for the Armed Forces, and for other purposes.

Summary of Committee Conference Activity

The Committee on Science, Space, and Technology was represented in the Conference on H.R. 2461, the National Defense Authorization Act for Fiscal Years 1990-1991, for the provisions of Section 801, which establishes new requirements for the Critical Technologies Plan, and Sections 3131-3138, technology transfer provisions, which broaden the Stevenson-Wydler Act by extending to all government-owned, contractor-operated (Go-Co) laboratories performing research for the Federal government, such as the National Energy Laboratories operated for the Department of Energy, the authority to enter into cooperative research and development agreements to transfer technology developed in Go-Co laboratories to the private sector.

The Conference report was filed in the House on November 7, 1989, and passed the House on November 9, 1989. The Conference report passed the Senate on Novembr 15, 1989.

Public Law 101-189 was signed by the President on November 29, 1989.

1.3—P.L. 101-218, THE RENEWABLE ENERGY AND ENERGY EFFICIENCY TECHNOLOGY COMPETITIVENESS ACT OF 1989 (H.R. 1216, S. 488)

To provide Federal assistance and leadership to a program of research, development, and demonstration of renewable energy and energy efficiency technologies, and for other purposes.

Summary and Background of Legislation

The purposes of H.R. 1216 are to provide a predictable funding base and to establish technical performance goals for the Federal renewable energy and energy efficiency research, development and demonstration programs by authorizing stable funding levels for three years. In addition, H.R. 1216 provides incentives for technology transfer of new renewable and energy efficiency developments by providing generic authority for the Secretary of Energy to enter into joint research and development ventures with the private sector. It is intended that the joint research and development ventures shall assist the private sector in commnercializing the technologies. The bill contains authorization for five joint research and development ventures for the demonstration of selected technologies. These joint ventures are intended to accelerate the pace at which the technologies are moved out of the laboratories and into the private sector thereby stimulating the industrial base of the renewables and conservation industries.

Support for such programs came from many interests. Those concerned with energy security, the trade balance, the environment, and domestic employment tended to view the renewable energy and energy efficiency technologies as making important contributions toward reducing the magnitude of our energy problems. While not reaching the expectations espoused by some in the mid-1970's, nevertheless many energy policy experts believe the long-term potential of alternative technologies to alleviate our energy problems is significant.

For example, the transportation sector used 21.2 quads of energy in 1987, the vast majority of which was in the form of oil. Thus, approximately 10 million barrels per day, accounted for 63 percent of all petroleum used in the United States.

Renewable energy and improvements in energy efficiency represent secure sources from which to meet our energy needs. They reduce our reliance on imported oil thereby lessening the threat of supply disruptions. Correspondingly, they reduce the associate balance of trade problems accompanying energy imports. Thus, renewables and energy efficiency not only reduce our bill for imported fuels, they also provide jobs for American workers to build, install, and maintain renewable energy or energy efficiency devices.

The legislation sets technical goals and provides stable funding for three years 1991 through 1993. In addition to authorizations for established R&D programs, the Committee added a line item authorization for hydrogen research and development.

The Act also requires the Secretary of Energy to establish and provide financial assistance to five joint research and development ventures to assist in the commercialization of renewable energy and energy efficiency technologies. These ventures are to address commercialization issues in Wind Energy, Photovoltaics, Solar

Thermal Energy, Factory-made Housing, and Advanced District Cooling. The ventures must be cost-shared by the private sector.

Legislative History

H.R. 1216 was introduced on March 1, 1989, by Representatives Lloyd, Sharp, Morrison (WA) and Moorhead. It was jointly referred to the Committee on Energy and Commerce, and the Committee on Science, Space, and Technology. The Subcommittee on Energy Research and Development held a hearing on the bill on May 23, 1989, and the Subcommittee on Transportation, Aviation and Materials held a hearing on March 3, 1989, to review the Department of Energy's program, progress and budget requests for the next several fiscal years. The Subcommittee on Energy Research and Development marked up the bill on September 21, 1989. The Subcommittee on Transportation, Aviation, and Materials marked up its part of the bill on October 4, 1989. The Committee on Science, Space, and Technology favorably ordered reported H.R. 1216, as amended, on October 19, 1989. The legislative report (H. Rept. 101-308, Part 1) was filed in the House on October 25, 1989. The Committee on Energy and Commerce filed its report in the House on November 14, 1989 (H. Rept. 101-308, Part 2).

A Senate companion bill to H.R. 1216, S. 488, was introduced by Senator Wyche Fowler of Georgia on March 1, 1989, and was reported out of the Senate Energy and Natural Resources Committee on August 4, 1989. The bill passed the Senate on September 22, 1989.

H.R. 1216 passed the House as amended, on November 17, 1989. Following passage it was laid on the table and S. 488, as amended, was passed in lieu. The Senate agreed with the House amendment to S. 488 on November 18, 1989. H. Con. Res. 237, correcting the enrollment of S. 488, passed the House on November 20, 1989, and passed the Senate, November 21, 1989, clearing the measure for the President.

Public Law 101-218 was signed by the President on December 11, 1989. Committee Publication Number 101-51, H. Rept. 101-308, part 1.

1.4—P.L. 101-224, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION OCEAN AND COASTAL PROGRAMS AUTHORIZATION ACT OF 1989 (H.R. 1668)

To authorize appropriations for fiscal year 1990 for certain oceanic, atmospheric, and coastal programs of the National Oceanic and Atmospheric Administration.

Summary and Background of Legislation

The National Oceanic and Atmospheric Administration (NOAA) was created in 1970 by Executive Order of the President through Reorganization Plan #4. Since its establishment, NOAA has obtained most of its funding for its major programs through direct appropriation with little or no legislation authorization. Authorizations that did occur were limited to a few specific areas of interest such as the National Climate Program and marine pollution monitoring and research. In the 98th Congress, legislation authorizing

NOAA activities, S. 1097, was vetoed by the President on October 19, 1984. In the 99th Congress, the Consolidated Omnibus Budget Reconciliation Act of 1986 (P.L. 99-272) authorized various NOAA activities, including nautical and aeronautical chart programs, marine research, and weather modfication research. During the 100th Congress, provisions authorizing appropriations for NOAA's satellite, atmospheric, and weather programs (previously approved by the House of Representatives and the Senate as S. 1667) were included in Title IV of S. 2209, the National Aeronautics and Space Administration Authorization Act for Fiscal Year 1989, which became Public Law 100-685 on November 17, 1988.

The Office of Oceanic and Atmospheric Research (OAR) conducts most of the research in support of NOAA's service organizations. The Committee authorizes the weather, climate, air quality, and solar terrestrial research and service programs that are carried out by the Office of Oceanic and Atmospheric Research. Major programmatic activities of OAR include climate research and forecasting, basic tornado and hurricane research, weather forecast model research and development, ozone depletion research, climate and global change monitoring and research, and remote sensing development.

H.R. 1668 authorizes appropriations of $61,347,000 for fiscal year 1990 to the Secretary of Commerce to enable NOAA to carry out its climate and air quality research duties. The section specifies that such duties include interannual and seasonal climate research, long-term climate and air quality research, and the National Climate Program. H.R. 1668 also authorizes appropriations of $46,328,000 for fiscal year 1990 to the Secretary of Commerce to enable NOAA to carry out its atmospheric research duties. The section specifies that such duties include research to develop improved prediction capabilities for atmospheric processes, as well as solar-terrestrial services and research.

On October 5, 1989 the Senate Commerce Committee reported H.R. 1668 with an amendment in the nature of a substitute. The bill as signed into law authorized appropriations to the Department of Commerce for fiscal year 1990 to carry out the activities of NOAA relating to mapping, charting, geodesy, observation and assessment, ocean and coastal management, ocean and Great Lakes research, executive direction and administrative activities, acquisition and construction, maintenance and operation of facilities, marine services, aircraft services, and the National Sea Grant College Program Act.

Legislative History

On May 11, 1988, the Subcommittee on Natural Resources, Agriculture Research and Environment approved, by unanimous voice vote, a subcommittee print, as amended, authorizing appropriations for the satellite, weather, and atmospheric programs of the National Oceanic and Atmospheric Administration for fiscal year 1990, 1991 and 1992, and ordered that a clean bill be introduced and reported to the full Committee for further consideration. A clean bill, H.R. 2427, was introduced on May 18, 1989.

On April 18, 1989, the Committee on Merchant Marine and Fisheries ordered reported H.R. 1668, a bill to authorize appropriations

for certain ocean and coastal programs of the National Oceanic and Atomspheric Administration (NOAA)) for Fiscal Year 1990, subsequently filing their report in the House on June 29, 1989 (H. Rept. 101-119, Part 1).

On April 25, 1989, the Committee on Science, Space, and Technology requested sequential referral of H.R. 1668, based upon the Committee's jurisdiction over the atmospheric programs of NOAA's Office of Oceanic and Atmospheric Research.

On June 29, 1989, the Committee on Science, Space, and Technology was granted a sequential referral of H.R. 1668 for a period ending not later than August 4, 1989, along with the other Committees of jurisdiction (Committees on Foreign Affairs, Interior and Insular Affairs, and Public Works and Transportation).

The Subcommittee on Natural Resources, Agriculture Research and Environment, having previously approved legislation authorizing the programs of the Office of Oceanic and Atmospheric Research of the National Oceanic and Atmospheric Administration (H.R. 2427, ordered reported by the Committee on Science, Space, and Technology on July 26, 1989) prepared amendments to H.R. 1668 conforming with the actions previously agreed to by the full Committee.

On August 3, 1989, the Committee on Science, Space, and Technology approved H.R. 1668, as amended, and ordered the bill reported to the House of Representatives (H. Rept. 101-119, Part 3). H.R. 1668 was passed by the House of Representatives on September 6, 1989, by a vote of 343-44. It was referred to the Senate Commerce, Science and Transportation Committee on September 7, 1989.

On October 5, 1989, the Senate Commerce, Science and Transportatin Committee ordered the bill reported with an amendment in the nature of a substitute. The report was filed in the Senate on November 2, 1989 (S. Rept. 101-187). The Senate passed H.R. 1668 with an amendment on November 17, 1989 by voice vote. On November 20, 1989, the House agreed to the Senate amendment by vocie vote, clearing the bill for the President.

Public Law 101-224 was signed by the President on December 12, 1989. Committee Publication Numbers 101-9, 101-11, 101-40, 101-43, 101-44, 101-48. House Report 101-216 (Part 3). (See H.R. 2427, see Chapter II of this report)

1.5—P.L. 101-328, NATIONAL SPACE COUNCIL AUTHORIZATION ACT OF 1990 (S. 2124)

Summary and Background of Legislation

S. 2124, the National Space Council Authorization Act of 1990, authorizes $1.2 million to pay the salaries of the National Space Council staff and other necessary expenses.

It also requests the Council to conduct a review of United States Launch Policy, including the Nation's expendable launch vehicle and satellite industries. It is expected that the result of the review will provide policy recommendations to ensure that the Nation will maintain its leadership role in space.

Members of the National Space Council include the Administrator of NASA and the Secretaries of State, Defense, Commerce,

Transportation, and Treasury as well as the Director of the Office of Management and Budget, the Chief of Staff to the President, the Assistant to the President for National Security Affairs, the Director of Central Intelligence and the Assistant to the President for Science and Technology.

The National Space Council was established in H.R. 1759, the NASA Authorization Act of FY 1989, in order to address issues of national space policy and to resolve interagency disputes. Because no authorization bill for fiscal year 1990 was enacted, the Space Council had been operating in FY 1990 without statutory budget authority.

S. 2124 is identical to section 14 of H.R. 1759, the House-passed fiscal year 1990 NASA authorization bill. Since its inception, the Council has successfully dealt with national space policy issues such as Landsat funding. The Council continues to work to resolve the Nation's mission to inhabit the Moon and to explore Mars.

Legislative History

S. 2124 was introduced on January 23, 1990 by Senator Hollings (for himself, Mr. Danforth, and Mr. Gore). The Senate passed S. 2124 by unanimous consent on February 20, 1990.

On June 26, 1990, Robert A. Roe, Chairman of the House Committee on Science, Space, and Technology, offered a motion to suspend the rules and pass S. 2124 (and two-thirds having voted in favor thereof); the rules were suspended and the Senate bill was passed.

S. 2124 was signed by the President on July 8, 1990, becoming Public Law Number 101-328.

1.6—P.L. 101-339, JOINT RESOLUTION RELATING TO NASA AND THE INTERNATIONAL SPACE YEAR (S.J. RES. 75)

Summary and Background of Legislation

The year 1992 was selected as International Space Year because it marks the 500th Anniversary of the first journey of Christopher Columbus to the New World as well as the 35th Anniversary of the International Geophysical Year. S.J. Res. 75, addresses three important objectives at a very critical time in the planning for the International Space Year.

First, it reaffirms the support of Congress and the President for this program. Second, it gives legislative recognition to the World Space Congress scheduled to convene in 1992. This meeting will be an important event that brings together governmental space agencies and private sector organizations that have significant roles in planning for the International Space year. Third, it reemphasizes that the original scope of International Space Year included human exploration, education, space applications for developing nations as well as NASA's mission to planet Earth.

Legislative History

S.J. Res. 75 was introduced on March 9, 1989 by Senator Matsunaga and referred to the Senate Committee on Foreign Relations. On March 6, 1990, it was reported with an amendment in the nature of a substitute by the Senate Committee on Foreign Rela-

tions and placed on the Senate Legislative Calendar under General Orders, Calendar No. 471. On March 7, 1990, S.J. Res. 75 passed the Senate with an amendment and an amended preamble by voice vote. On March 12, 1990, it was jointly referred to the House Committees on Foreign Affairs and Science, Space, and Technology. On March 15, 1990, it was referred jointly to the Subcommittee on Space Science and Applications and the Subcommittee on International Scientific Corporation.

S.J. Res. 75 was favorably ordered reported by the Committee on Science, Space, and Technology on May 23, 1990 (H. Rept. 101-532, Part I, filed June 7, 1990). The Committee on Foreign Affairs discharged S.J. Res. 75 without prejudice to the Committee's jurisdiction. On June 12, 1990. S.J. Res. 75 passed the House by voice vote under suspension of the rules. On July 19, 1990, the Senate agreed to the House amendments by voice vote.

S.J. Res. 75 was signed by the President on July 31, 1990, becoming Public Law Number 101-339.

1.7—P.L. 101-352, FIRE SAFE CIGARETTE ACT OF 1990 (H.R. 293)

To direct the completion of the research recommended by the Technical Study Group on Cigarette and Little Cigar Fire Safety and to provide for an assessment of the practicality of a cigarette fire safety performance standard.

Summary and Background of Legislation

According to fire experts, the fire loss in the U.S. is among the worst in the industrialized world. Cigarette ignition of upholstered furniture and mattresses is by far the leading cause of fire deaths. For example, in 1984, 67,000 cigarette-ignited fires resulted in 1,570 deaths, 7,000 serious injuries and $390 million in property damage. Most of these fires were in residences where a live cigarette was dropped onto bedding or an upholstered chair. More recently, in 1987, there were 42,600 residential cigarette-ignited fires that resulted in 1,420 deaths (30 percent of all residential fire deaths), along with 3,370 injuries and over $295 million in property damage.

A mandatory fire safety standard for mattresses and voluntary standards for upholstered furniture have resulted in the production of fire resistant furniture. Yet, furniture has a long life span, with an average lifetime of about 15 years, so furniture with less fire resistance than the present standard will continue to be present for many years. In contrast, cigarettes are used within a few months of manufacture.

In response to these concerns, Congress passed the Cigarette Safety Act of 1984, Public Law 98-567. The Cigarette Safety Act created the Technical Study Group on Cigarette and Little Cigar Fire Safety (TSG) to determine the feasibility of developing cigarettes less likely to ignite upholstered furniture and mattresses. The TSG was overseen by an Interagency Committee (IAC) consisting of the Chairman of the Consumer Product Safety Commission (CPSC), who served as Chairman of the IAC, the U.S. Fire Administrator in the Federal Emergency Management Agency, and the Assistant Secretary of Health in the Department of Health and Human Services. The TSG consisted of 15 scientific or technical

representatives from Federal agencies and private sector organizations.

In the October 1987 TSG final report, the TSG concluded that "it is technically feasible and may be commercially feasible to develop cigarettes that will have significantly reduced propensity to ignite upholstered furniture or mattresses." The report also found that "the overall impact on other aspects of the U.S. society and economy may be minimal." The TSG went on to note that "it may be possible to solve this problem at costs that are less than the potential benefits, assuming the commercial feasibility of the modified cigarettes."

The TSG recommended additional technical work, specifically development of a standard test method to determine cigarette ignition propensity. In December of 1987, the IAC recommended that Congress authorize additional research into the commercial feasibility and health implications of fire-safe cigarettes. To accomplish this work, the IAC recommended the enactment of appropriate legislation.

Public Law 101-352 directs the completion of the research, studies and other activities recommended by the Technical Study Group on Cigarette and Little Cigar Fire Safety. The completion of this work could lead to the successful development of a cigarette fire safety performance standard for cigarettes with less likelihood of igniting mattresses and upholstered furniture. The Consumer Product Safety Commission would play the lead role in coordinating the work, with the Center for Fire Research of the National Institute of Standards and Technology (NIST) and the Department of Health and Human Services providing technical assistance.

Legislative History

In response to the above mentioned reports, two bills were introduced in the House in the 100th Congress, H.R. 3440, by Congressman Moakley, and H.R. 4497, by Congressman Boucher. Similar bills, H.R. 293, by Congressman Moakley, and H.R. 673, by Congressman Boucher, were introduced in the 101st Congress. H.R. 293 would require the establishment of a mandatory fire safety standard for cigarettes by the CPSC. H.R. 673 would reestablish the IAC and require further study with a new 13 member Implementation Task Force.

On July 19, 1990, the Subcommittee on Commerce, Consumer Protection and Competitiveness of the Committee on Energy and Commerce reported by voice vote, as amended, H.R. 293, the Fire Safety Cigarette Act of 1990. The amendment in the nature of a substitute was offered by Congressman Boucher, reflecting a compromise between Congressman Moakley and Congressman Boucher. On July 26, 1990, the Committee on Energy and Commerce met in open session and ordered reported the bill, H.R. 293, the Fire Safe Cigarette Act of 1990, as amended, by voice vote.

On July 26, 1990 Congressman John Dingell, Chairman of the House Energy and Commerce Committee, wrote a letter to Congressman Robert A. Roe, Chairman of the House Committee on Science, Space, and Technology, acknowledging that provisions in H.R. 293, as amended, affect the responsibilities of NIST which is within the jurisdiction of the Committee on Science, Space, and

Technology under clause 1(r)(2) of Rule X of the Rules of the U.S. House of Representatives. Under normal circumstances, the provisions of the amended bill affecting the NIST could trigger a sequential referral to the Committee on Science, Space, and Technology. Energy and Commerce requested that the Committee on Science, Space, and Technology waive its right to consider the legislation without prejudice and therefore avoid any delay in consideration of the bill by the full House. On July 27, 1990, Congressman Roe responded to Congressman Dingell waiving sequential referral of H.R. 293 and requesting that the exchange of letters between the Committees be placed in the Record during House consideration. On July 30, 1990, H.R. 293, as amended, passed the House, under suspension of the rules, and passed in the Senate by unanimous consent, clearing the measure for the President. H.R. 293 was signed by the President on August 10, 1990, becoming Public Law 101-352.

1.8—P.L. 101-380, OIL POLLUTION COMPENSATION AND LIABILITY ACT OF 1990 (H.R. 1465)

To establish limitations on liability for damages resulting from oil pollution, to establish a fund for the payment of compensation for such damages, and for other purposes.

Background and Summary of Legislation

Waterborne transport of oil accounts for about 28 of the total volume of oil spilled in marine and freshwater environments. Several millions of gallons of oil per year are discharged to the marine environment as a result of oil spills. For example, data for the decade between 1973 and 1984 show a range of 8.2 million gallons in 1977 to 21.5 million gallons of oil spilled in 1975. The number of spills occurring per year during this period ranged from 9,000 to 12,100. Yet, federal funding for oil spill research declined significantly in the 1980's after peaking in 1980. By 1989, federal funding for oil pollution R&D had completed dried up for several federal agencies traditionally involved in oil pollution, such as the Environmental Protection Agency, the National Oceanic and Atmospheric Administration, the Department of Energy, and the U.S. Fish and Wildlife, Service. The U.S. Coast Guard's budget for oil pollution R&D plummeted from a high of $6 million in 1980 to a low of $300,000 in 1989. The only U.S. government facility for testing oil spill cleanup technologies under realistic conditions, the Oil and Hazardous Materials Simulated Environmental Test Tank, was closed in 1988. Moreover, despite the many agencies involved in oil pollution research, agency coordination has occurred loosely, without a formal mechanism for ensuring that research needs were being met.

On March 24, 1989, at 12:04 a.m. the supertanker, *Exxon Valdez,* struck Blight Reef in Prince William Sound, Alaska, releasing 11 million gallons of oil to one of the nation's most pristine ecosystems. This disaster elicited a sharp response from the environmental community and federal officials who called for increased research as well as improved oil transportation and handling practices.

Title VII of P.L. 101-380, the "Oil Pollution Act of 1990," establishes a federal oil pollution R&D program, to be coordinated by a new interagency Coordinating Committee, authorized at $27.25 million a year for five years. The Committee will coordinate the research activities of several federal agencies, and will work with state and local governments, industry, universities, and other nations. The Committee will develop a research plan, with advice from the National Academy of Sciences, for a program which will investigate technologies to prevent and clean up spills, ways to restore damaged natural resources, and the long-term environmental effects of spills. The federal program also includes a regional research program under which the Interagency Committee is responsible for coordinating competitive grants to universities or other research institutions to address regional oil pollution research needs. A total of $600,000 is available to each of 10 regions, defined by existing Coast Guard district boundaries. The Title also requires the Coast Guard to conduct oil pollution minimization demonstration projects in each of three major U.S. ports.

Legislative History

H.R. 1465, the Oil Pollution Prevention Removal, Liability, and Compensation Act of 1989, was introduced on March 16, 1989, and was jointly referred to the Committees on Public Works and Transportation, and Merchant Marine and Fisheries. The bill was ordered reported with an amendment in the nature of a substitute by the Committee on Public Works and Transportation on August 3, 1989, and by the Committee on Merchant Marine and Fisheries, with amendments, on September 18, 1989.

A similar and related bill, H.R. 3027, the Oil Pollution Prevention, Response, Liability, and Compensation Act of 1989, was introduced on July 27, 1989 and was referred jointly to the Committee on Public Works and Transportation, Merchant Marine and Fisheries, and Science, Space, and Technology. The Subcommittee on Natural Resources, Agriculture Research, and Environment received referral of the bill on August 4, 1989, and held hearings on September 7, 1989 on Oil Spill Research Needs. The bill was reported by the Subcommittee to the Committee on Science, Space, and Technology with a substitute amendment on September 12, 1990.

The Committee on Science, Space, and Technology ordered reported both H.R. 3027 and H.R. 1465 (after receiving a sequential referral of H.R. 1465 for September 19 through 20, 1989) with amendments on September 19, 1989. H.R. 1465 passed the House with modified research amendments on November 9, 1989.

The Senate passed H.R. 1465 on November 19, 1989 with a substitute amendment, substituting the language of S. 686 as amended. (S. 686 was passed by the Senate on August 4, 1989.) Senate conferees were appointed on November 21, 1989; House conferees were appointed on February 7, 1990. The House agreed to the conference report on August 4, 1990. The Oil Pollution Act was signed by the President on August 18, 1990, becoming Public Law 101-380. Committee publication number 101-72.

1.9—P.L. 101-391 THE HOTEL AND MOTEL FIRE SAFETY ACT OF 1990 (H.R. 94)

To amend the Federal Fire Prevention and Control Act of 1974 to allow for the development and issuance of guidelines concerning the use and installation of automatic sprinkler systems and smoke detectors in places of public accommodation affecting commerce, and for other purposes. This goal is achieved by encouraging the installation of fire sprinklers and smoke detectors in places of public accommodation through the issuance of certain safety guidelines for the use of public accommodations by Federal agencies and employees.

Summary and Background of Legislation

H.R. 94, as introduced, was similar to the version of The Hotel and Motel Fire Safety Act of 1988 (H.R. 3704), that passed the House on September 26, 1988 by voice vote under suspension of the rules. The Hotel and Motel Fire Safety Act of 1988 was introduced following hearings on the Dupont Plaza Hotel Fire in San Juan, Puerto Rico on December 31, 1986. Testimony indicated that the fire, which rampaged through the hotel ballroom killing 97 people in 12 minutes, would not have posed a threat to life if smoke detectors and a sprinkler system had been in place.

Most fire safety experts agree that automatic sprinkler systems are the most effective and reliable on-site means of fire protection in a building. According to the National Fire Protection Association, there is no record of a multiple death fire (involving three or more people) in a completely sprinklered building where the system was operated properly. Yet, the most optimistic survey published in June 1988 by the American Hotel-Motel Association found that sprinklers were installed in only 45 percent of the guest rooms in the Nation (presumbly representing an even lower percentage of hotels).

Public Law 101-301 provides that within two years of enactment, each state would submit lists of hotels and motels that meet federal fire safety guidelines. Under the guidelines, hotels and motels would be required to install sprinklers and smoke detectors in accordance with the appropriate national voluntary standard. Sprinklers are not required if the hotels or motels are under three stories. The U.S. Fire Administration (USFA) would would compile the lists of hotels, publish a master list in the Federal Register within 60 days, and ensure that each state update the list regularly. Within 60 days of the publication of the master list, the Federal Travel Directory (published by the General Services Administration) would include only hotels and motels that meet the guidelines. Surveys conducted to calculate federal employee per diem reimbursement rates would include only those hotels and motels that meet the guidelines. Four hundred twenty-five days after the publication of the master list, federally funded meetings, conferences or seminars could be held only in hotels and motels that meet the guidelines, unless a waiver is granted by the head of the agency funding the event. Also advertisements for the event must include a notice indicating the hotel or motel has complied with federal fire safety guidelines.

Public Law 101-391 requires that four years after enactment each federal agency must ensure that at least 65 percent of employee travel nights are spent at hotels and motels that meet the guidelines. The following year, the percentage would increase to 75 percent, and in all subsequent years to 90 percent. The Federal Travel Directory must list a description of the access and safety devices, including emergency alerting devices, available in the hotels and motels for guests who are hearing impaired, or visually or physically disabled. The USFA may widely publicize and encourage states to promote the use of automatic sprinkler systems, automatic smoke detection systems, and other fire safety guidelines issued by the USFA. The bill should not be construed to encourage model building code organizations, or State or local governments, to reduce requirements for fire resistive walls or other safety features as a result of encouraging the installation of automatic sprinklers and smoke detectors.

Legislative History

H.R. 94 was introduced by Congressmen Boehlert, Walgren and Walker on January 3, 1989 and referred to the Committee on Science, Space, and Technology. The Subcommittee on Science, Research and Technology held a hearing on the bill on March 2, 1989. Witnesses included representatives of the USFA, several fire service organizations, fire equipment manufacturers, state and local fire officials and the insurance industry. Testimony indicated that the cost of installing sprinklers is estimated to be less than most hotels spend on new carpet (an investment made about every 5 years) and that lower insurance rates associated with the installation of sprinklers can repay the cost in three to five years.

H.R. 94 as introduced: gave the USFA nine months to promulgate final guidelines for fire safety, using Federal Register procedures; specified that the guidelines must require sprinklers and smoke detectors in all hotels except those that are under three stories, have no interior corridors and have immediate egress from rooms to the outside, specified all hotels must have smoke detectors; gave states one year to prepare lists of hotels that met the guidelines for submission to USFA and gave USFA 60 days to publish the lists in the Federal Register; banned federal employees from receiving reimbursement if they stayed at any hotel not in compliance with the guidelines (unless none were available within a reasonable distance, as defined by the General Services Administration), effective 60 days after publication of the list; required that per diem rates for federal travel be set by surveying solely hotels that met the fire safety guidelines; and required that the federal Travel Directory list services available to handicapped individuals.

The incentive in H.R. 94 for federal employee safety complements the actions of several private sector companies and federal agencies. For example, CIGNA Corporation prohibits its employees from staying n hotels without spinklers and smoke detectors. The director of the Federal Emergency Management Agency (FEMA) recommended that traveling FEMA employees select hotels equipped with automatic sprinkler systems whenever possible.

The Subcommittee met on April 12, 1989 to mark-up H.R. 94. As a result of the Subcommittee hearing Congressman Boehlert of-

fered an amendment in the nature of a substitute, which refined the bill in response to concerns expressed by the National Fire Protection Association, the National Electrical Manufacturers Association, and the American Hotel And Motel Association. Congressman Boehlert's amendment was adopted by voice vote. The amendment substituted existing installation standards for USFA rule-making. The installation standards (how many sprinkler heads or detectors to put in what areas) were the only aspect of the fire safety guidelines that were not already specifically defined in the bill. The amendment also clarified that the smoke detector provisions of the bill required that hard-wire (not battery-operated) single-station smoke detectors be placed in guest rooms. The amendment allowed one year to pass between the date new per diem surveys were required and the date employees were prohibited from traveling to hotels that do not meet the guidelines. This provision provided time for any reimbursement rate changes to take effect before limiting employee travel. The Subcommittee reported H.R. 94, as amended, by voice vote on April 12, 1989.

On May 10, 1989, the Committee on Science, Space, and Technology met to mark-up the bill. Congressman Beohlert offered a technical amendment that was adopted by voice vote. The amendment correctly identified the standard for smoke detector installation which had been incorrectly cited in the Subcommittee amendment. Also, the amendment allowed Federal employees to stay at one- and two-story hotels that have interior corridors that do not adjoin the guest rooms. Finally, the amendment clarified the definition of a sprinkler system. The Committee ordered the bill reported with an amendment in the nature of a substitute on May 10, 1989, by voice vote.

Specifically, the bill as ordered reported by the Committee: promulgated guidelines for fire safety that required federal employees to stay at hotels that have sprinklers and smoke detectors or in hotels that are under three stories, have no interior corridors adjoining guest rooms, have immediate egress from rooms to the outside and have smoke detectors; gave states one year to prepare lists of hotels that met the guidelines for submission to USFA and USFA 60 days to publish the list in the Federal Register; required that per diem rates for federal travel be set by surveying solely hotels that met the fire safety guidelines, effective 60 days after publication of the USFA master list; banned federal employees from receiving reimbursement if they stayed at any hotel not in compliance with the guidelines (unless none is available within a reasonable distance, as defined by the General Services Administration), effective 425 days after publication of the master list; required the Federal Travel Directory to list services available to handicapped individuals. The legislative report (H. Rept. 101-357) was filed on November 14, 1989.

As ordered reported by the Committee on Science, Space, and Technology, H.R. 94 contained a provision altering government travel reimbursement policy, which is a matter with the legislative jurisdiction of the House Committee on Government Operations. Therefore, the Science, Space, and Technology Committee held several disscussions on the bill with the Committee on Government

Operations. The committees agreed to a floor amendment that included the following provisions:

1. A new Section 5 that required each federal agency to ensure that a fixed percentage of its employees' travel nights were at hotels that meet the fire safety guidelines;

2. A new Section 6 prohibiting the Federal Government or a contractor or grantee from holding meetings, conferences, conventions or seminars in hotels that do not meet the guidelines if the event is funded in whole or in part with federal funds; requiring a notice in advertisements of federally funded meetings, conferences, conventions and seminars, noting this requirement; and empowered the head of each federal agency to waive the prohibition for cause; and

3. Clarified Section 4, concerning the Federal Travel Directory, which is also within the jurisdiction of the Committee on Government Operations; and made clarifying and technical changes in other sections of the bill, which are solely within the jurisdiction of the Committee on Science, Space, and Technology.

H.R. 94, as amended, passed the House on November 17, 1989, by voice vote under suspension of the rules. On November 22, 1989, H.R. 94 was referred to the Senate Committee on Commerce, Science and Transportation. On June 27, 1990, the Committee on Commerce, Science and Transportation ordered H.R. 94 reported with an amendment in the nature of a substitute. The legislative report (S. Rept. 101-408) was filed on August 1, 1990. The bill, as reported changed the exemption for the sprinkler requirement from 2 to 3 stories, and eliminated the requirement for this exemption that there are no interior corridors that adjoin the guestrooms, and also eliminated the requirement for immediate egress to ground level. The bill also increased both the time for submission of a list of certified places by state governments to FEMA from 1 year to 2 years, after the date of enactment, and time for publication of the master list to FEMA from 60 days after 1 year to 60 days after 2 years from the date of enactment. In addition, the reported bill included a section to emphasize that the bill is not to be construed to encourage model building code organizations and state and local governments to reduce requirements for fire resistive construction and other safety features, as a result of the encouragement of the installation of automatic sprinkler systems and smoke detectors under the bill's guidelines.

On August 3, 1990 the Senate passed H.R. 94, with an amendment in the nature of a substitute. On September 10, 1990, by voice vote, under suspension of the rules, the House agreed to the bill as amended by the Senate, clearing the measure for the President.

Public Law 101-391 was signed by the President on September 25, 1990. Committee Publication Number 101-99; H. Rept. 101-357.

1.10—P.L. 101-425, DEPARTMENT OF ENERGY METAL CASTING COMPETITIVENESS RESEARCH ACT OF 1990 (H.R. 1243)

The Act seeks to improve the competitiveness of the United States metal casting industry by establishing four institutes to perform and promote metal casting research and development.

Summary and Background of Legislation

The Act seeks to encourage and maintain a technologically advanced United States metal casting industry. Testimony received by the Subcommittee on Energy Research and Development from industry representatives indicated that the United States is in jeopardy of losing its preeminence in the metal casting industry to foreign competitors who have benefited by their government-funded research subsidies.

The legislation establishes a metal casting research and development program at the DOE. The goal of the program is to perform and promote research and development on issues related to the technology competitiveness and energy efficiency of the United States metal casting industry. The Secretary of Energy shall solicit proposals on a competitive basis from applicants to carry out the program. The selectees for research assistance must meet participation criteria as included in the Act. In addition to meeting the selection criteria, the Act calls for participants to cost-share 50 percent of the research and development activities.

The Act establishes a nine-member Industrial Advisory Board, appointed by the Secretary of Energy, to provide guidance and oversight in implementing the selection criteria and operation of the program.

The Act authorizes $5 million for each of FY 1991, 1992, and 1993 to carry out the purposes of the Act.

Legislative History

H.R. 1243 was introduced on March 2, 1989, by Congressmen Erdreich and Harris and was referred to the Committee on Science, Space, and Technology. The bill was initially referred to the Subcommittee on Energy Research and Development on March 10, 1989. Subsequently, the bill was also referred to the Subcommittee on Transportation, Aviation and Materials on September 19, 1989. The Subcommittees held a joint hearing on the bill on July 18, 1989. The Subcommittee on Energy Research and Development marked up an amendment in the nature of a Substitute on November 17, 1989. On February 21, 1990, the Subcommittee on Transportation, Aviation and Materials was discharged from consideration of H.R. 1243. On February 21, 1990, the Committee on Science, Space, and Technology, with a quorum being present, ordered reported the Substitute with an amendment. The legislative report (H. Rept. 101-410) was filed on March 1, 1990. On March 6, 1990, the House passed H.R. 1243 under Suspension of the Rules by a roll call vote of 382-27.

H.R. 1243 was referred to the Senate Commerce Committee on March 7, 1990. The Commerce Committee was discharged from consideration of H.R. 1243 on March 20, 1990. The bill was then referred to the Senate Committee on Energy and Natural Resources on the same day. On March 28, 1990, the Senate and Natural Energy Committee reported the bill to the full Senate (S. Rept. 101-258). The Senate passed the bill with an amendment on April 3, 1990 by a voice vote.

The House passed H. Res. 490, a resolution to take H.R. 1243 from the Speaker's table, on September 24, 1990, and agree to the

Senate amendments. H. Res. 490 was passed by a roll call vote of 331-84. On September 28, 1990, the Senate agreed to the House amendments to the Senate amendment by a voice vote clearing the bill for the President.

Public Law 101-425 was signed by the President on October 15, 1990. Committee Publication Number 101-77, H. Rept. 101-410.

1.11—P.L. 101-445, THE NATIONAL NUTRITION MONITORING AND RELATED RESEARCH ACT OF 1990 (H.R. 1608; H.R. 677; S. 253)

Summary and Background of Legislation

During the past several years, the Subcommittee on Science, Research, and Technology, in conjunction with Subcommittees of the Committee on Agriculture, have held hearings on the adequacy of current nutrition monitoring activities and recommendations for enhancing the effectiveness and benefits of a comprehensive system. Public witnesses asserted that an effective nutrition monitoring system was imperative to the development of nutrition, agriculture, and health policies in the U.S., and that a legislative mandate would assist in establishing a central focus and identifiable resources for federal nutrition monitoring activities. In response to needs and recommendations suggested at these hearings, nutrition monitoring and related research legislation, similar in nature, was introduced in the 98th, 100th, and 101st Congresses.

Public Law 101-445 is designed to: make more effective use of federal and state expenditures for nutrition monitoring; enhance the performance and benefits of current federal nutrition monitoring and related research activities; establish and facilitate the timely implementation of a coordinated National Nutrition Monitoring and Related Research Program; and establish a central federal focus for the coordination, management, and direction of federal nutrition monitoring activities. The legislation requires the Department of Agriculture and the Department of Health and Human Services to prepare jointly a 10-year plan for nutrition monitoring, creates an advisory council on nutrition monitoring, and requires both departments to review all dietary guidance.

Legislative History

Companion bills H.R. 677 and S. 253, the National Nutrition Monitoring and Related Research Act of 1989, introduced in the 101st Congress were identical to S. 1081, which was pocket vetoed by President Reagan on November 8, 1989. H.R. 677 was introduced on January 27, 1989 by Congressmen Brown of California, Roe, Walgren, Boehlert and 27 co-sponsors. The bill was jointly referred to the Committee on Science, Space, and Technology and the Committee on Agriculture. S. 253 was introduced on January 25, 1989 by Senator Bingaman and 15 co-sponsors. This Senate companion bill, identical to H.R. 677, was referred to the Committee on Governmental Affairs.

On June 23, 1989, the Senate Committee on Governmental Affairs held a hearing on S. 253. The Committee met to discuss the bill on July 13, 1989, and ordered it favorably reported (S. Rept. 101-137).

On September 21, 1989 the Subcommittee on Science, Research and Technology and the Subcommittees on Department Operations, Research, and Foreign Agriculture and Domestic Marketing, Consumer Relations, and Nutrition of the Committee on Agriculture held joint hearings on H.R. 677 and H.R. 1608, the Comprehensive National Nutrition Monitoring System Act (Introduced on March 23, 1989 by Congressman de la Garza and 5 co-sponsors and referred to the Committee on Agriculture). The objectives of the hearing were to determine the: current status of federal nutrition monitoring activities and plans for the next phase of surveys and infrastructure support; effectiveness of federal coordinating efforts and the resulting accomplishments in nutrition monitoring and related research; need for a legislative mandate for a national nutrition monitoring system; and degree to which recent recommendations to enhance the effectiveness of current nutrition monitoring activities have been implemented or are being given consideration.

Witnesses included representatives of the Departments of Agriculture and Health and Human Services; former nutrition coordinators of the Departments of Agriculture and Health and Human Services and a fromer Deputy Assistant Secretary of the Department of Agriculture; the director of a nutrition monitoring report contracted by the Departments of Agriculture and Health and Human Services; and representatives of nutrition, health and scientific societies, the Association of State and Territorial Public Health Nutrition Directors, and food and agriculture organizations.

Administration witnesses opposed H.R. 677, indicating that significant progress had been made in the past several years and that the bill is unnecessary and would even delay the implementation of the Administration's monitoring goals. Administration witnesses supported H.R. 1608 if the bill were amended to incorporate certain changes—the most notable being the removal of the bill's veto arrangement on the issuance of dietary guidelines. Former nutrition coordinators of the Departments of Agriculture and Health and Human Services strongly supported H.R. 677 and indicated that a legislative mandate was essential for effective coordination and the development of a comprehensive national system for nutrition monitoring. The former Department of Agriculture administrator argued that H.R. 677 would create more paperwork, especially given the shortage of appropriations for nutrition monitoring. Witnesses representing public health nutrition directors argued that: although some progress had been made recently, such progress was largely due to congressional interest, oversight, and the threat of a legislative mandate; a national nutrition monitoring system was in the best interest of the public and such a system was not currently in place; the lack of a national nutrition monitoring system resulted in the ineffective use of federal and state funds; and H.R. 677 included the necessary components for an effective system, especially the inclusion of a mandated advisory council.

On November 3, 1989 the Senate amended S. 253 and passed the bill by unanimous consent. S. 253 was jointly referred to the House Committees on Science, Space, and Technology and Agriculture on November 7, 1989.

On March 29, 1990 the Subcommittee on Department Operations, Research, and Foreign Agriculture of the Committee on Agricul-

ture met to consider H.R. 1608. The Subcommittee adopted an amendment to substitute the text of S. 253, as passed by the Senate, for the entire text of H.R. 1608 The Subcommittee then ordered reported H.R. 1608, as amended, to the Committee on Agriculture. On July 18, 1990 the Committee on Agriculture met to mark-up H.R. 1608, as amended. Mr. Brown of California offered five clarifying amendments in bloc in response to concerns raised by the Administration. The amendments were adopted in bloc by voice vote. The Committee on Agriculure, by voice vote, ordered reported H.R. 1608, as amended. The legislative report (H. Rept. 101-788) was filed on October 2, 1990. To expedite consideration of H.R. 1608, as amended, the Chairman of the Committee on Science, Space, and Technology, Congressman Robert A. Roe, and the Chairman of the Committee on Energy and Commerce, Congressman John D. Dingell, exchanged letters with the Chairman of the Committee on Agriculture, Congressman "Kika" de la Garza, indicating their Committee would not seek sequential referral of the bill and that such action should not be interpreted in any respect to waive jurisdiction of the Committee on Science, Space, and Technology or the Committee on Energy and Commerce over provisions in H.R. 1608 or any other legislation addressing matters within the jurisdiction of the two Committees.

On October 2, 1990 H.R. 1608, as amended, passed the House, by voice vote, under suspension of the rules. On October 5, 1990 H.R. 1608, as amended by the House, passed the Senate under unanimous consent, clearing the measure for the President. H.R. 1608 was signed by the President on October 22, 1990, becoming Public Law 101-445. Committee Publication Number 101-75.

1.12—P.L. 101-446, THE FIREFIGHTER SAFETY STUDY ACT (H.R. 2318; H.R. 4522)

To improve the information available to emergency response personnel in the field, and for other purposes. Specifically, the law would direct the Adminsitrator of the USFA to review existing emergency response information nationwide to evaluate its accuracy and consistency, and to determine whether information is properly expressed for firefighters to use in an emergency situation and how to improve information for emergency response.

Summary and Background of Legislation

H.R. 2813, was introducted by Congresswoman Meyers in response to a fire and explosion in 1988 in Kansas City, Missouri. The fire caused an explosion of hazardous materials, killing six firefighters. Fire department personnel were informed that explosives might have been stored on the site. However, they were not informed of the type, location, or quantity of explosives stored on the site. Several investigators of the tragedy were conducted, including one by the U.S. Fire Administration (USFA), the lead agency for the fire effort in the Federal Government. The USFA issued a technical report entitled "Six Firefightger Fatalities in Construction Site Explosion Kansas City, Missouri", Report 024 of the Major Fires Investigation Project. The USFA found that the tragedy was, in past, the result of the firefighters having either in-

complete or unclear information. In addition, the USFA found that some materials developed and disseminated by some federal agencies for the emergency response personnel were either incorrect or ambiguous.

The USFA concluded that educational materials and field guides for operations, particularly for explosives, needed to be developed with a primary focus on the immediate problems and operations environment of the emergency response personnel. The USFA recommended a review of the training materials and field operations guidance materials commonly used by firefighters to ensure that the materials are both accurate and clear. The Firefighters' Safety Study Act, would carry out the recommendation of the USFA.

Public Law 101-446 would direct the Administrator of the USFA to review existing emergency response information nationwide to evaluate its accuracy and consistency, and to determine whether information is properly expressed for firefighters in an emergency situation and how to improve information for emergency response. To conduct the review and make recommendations, the Administrator would be required to form a working group consisting of Federal, state and local officials, and representatives from the chemical industry that would submit a report to the Administrator in one year. The working group would be required to meet as needed, but at least once a year after the issuance of the report to review implementation and recommend changes if necessary. The Act would require the report to be transmitted to the Administrator of the USFA, House Committee on Science, Space, and Technology and the Senate Committee on Commerce, Science, and Transportation. The Act would designate the short title of the bill, as the "Firefighters' Safety Study Act."

Legislative History

H.R. 2813, was introduced on June 29, 1989, and referred to the Committee on Science, Space, and Technology. As introduced, the bill would direct the Administrator of the USFA to review existing emergency response information nationwide to evaluate its accuracy and consistency, and to determine whether information is properly expressed for firefighters in an emergency situation and how to improve information for emergency response. To conduct the review and make recommendations, the Administrator would be required to form a working group consisting of Federal, state and local officials that would submit a report to the Administrator in one year. The working group would be required to meet as needed, but at least once a year after the issuance of the report to review implementation and recommend changes if necessary.

On November 14, 1989, the Subcommittee on Science, Research and Technology held a hearing on H.R. 2813. The Subcommittee heard from Members of Congress, Federal agencies and representatives of fire service organizations. No major objections were raised to the basic thrust of H.R. 2813. The International Association of Fire Fighters (IAFF) indicated they would oppose the bill if it delayed other efforts to implement improvements in information dissemination. The bill would not have any impact on other efforts to improve information dissemination to the fire service. The Nation-

al Volunteer Fire Council (NVFC) testified that the bill needed implementation authority.

The Subcommittee met on April 5, 1990, to consider H.R. 2813. The Chairman asked for unanimous consent to use a vehicle for mark-up that would amend the bill, as introduced. At the request of Mrs. Meyers, the vehicle for mark-up added representatives from the chemical industry as members of the working group. The amendment was adopted by the Subcommittee by voice vote. The Subcommittee by voice vote ordered H.R. 2813, as amended, to be reported to the Committee on Science, Space, and Technology.

A clean bill, H.R. 4522, was introduced on April 18, 1990. H.R. 4522 was identical to the version of H.R. 2813 approved by the Subcommittee except for two additional changes. One change required the report to be transmitted to the House Committee on Science, Space, and Technology and the Senate Committee on Commerce, Science, and Transportation as weli as to the Administrator of the USFA. The second change was the addition of a short title, the "Firefighters' Safety Study Act." On April 18, 1990, the Committee on Science, Space, and Technology considered H.R. 4522. By voice vote, the Committee ordered the bill reported. The legislative Report (H. Rept. 101-473) was filed on May 3, 1990. H.R. 4522 passed the House on May 4, 1990, under suspension of the rules with a roll call vote of 410-0. The bill was referred to the Senate Committee on Commerce, Science and Transportation on May 9, 1990. On July 31, 1990 the Senate Committee on Commerce, Science and Transportation ordered the bill reported without amendment. The legislative report (S. Rept. 101-452) was filed on August 30, 1990. H.R. 4522 passed the Senate, by unanimous consent, on October 5, 1990, clearing the measure for the President. H.R. 4522 was signed by the President on October 22, 1990, becoming Public Law 101-446. Committee Publication Numbers 101-76 and H. Rept. 101-473.

1.13—P.L. 101-508, THE OMNIBUS BUDGET RECONCILIATION ACT OF 1990

Pursuant to the requirements of the conference report on H. Con. Res. 310, setting forth the Congressional budget for the United States Government for fiscal years 1991-1995, the Committee on Science, Space, and Technology submitted legislation (Title X of H.R. 5835) to achieve the budget targets assigned to the Committee by the House of Representatives.

The Omnibus Budget Reconciliation Act of 1990 incorporates the following provisions proposed by the Committee:

National Oceanic and Atmospheric Administration User Fees. Under current law, the National Oceanic and Atmospheric Administration (NOAA) can only recover its costs in selling information and data it produces, except where legislative authority directly permits NOAA to charge fair market value. The Omnibus Budget Reconciliation Act of 1990 amended section 409 of P.L. 100-685 (15 U.S.C. 1534) to extend the authority of the Secretary of Commerce, on behalf of the National Oceanic and Atmospheric Administration (NOAA), to charge fees based upon fair market value to beneficiaries of NOAA data and information. The legislation is expected to

generate $2 million in new fees in fiscal years 1991, 1992, and 1993, and $3 million in fiscal years 1994 and 1995.

Radon Proficiency Program User Fees. In 1985 EPA established a radon action program that, in addition to other activities, carries out a voluntary radon measurement proficiency program (RMP). The program evaluates the ability of firms offering radon measurement services to provide accurate and reliable test results. The Indoor Radon Abatement Act of 1988 (P.L. 100-551) directed EPA to establish a user fee for the voluntary proficiency program, the radon mitigation contractor proficiency program, and for informational seminars conducted through the Agency.

A radon proficiency program user fee provision was adopted on October 27, 1990 through approval of the conference report on H.R. 5835, the Omnibus Budget Reconciliation Act of 1990. The House provision of H.R. 5835, Section 10003, originally proposed by the Committee, provided for the establishment of a mandatory radon measurement proficiency program at the Environmental Protection Agency. The provision also directed the Administrator to conduct research to develop, test, and evaluate radon measurement methods. Section 10003(c) directed the Administrator to establish a schedule of user fees for applicants for certification, with the amount of such fees to cover the operating and administrative costs of the certification and research programs. The Senate had no comparable provision but offered a substitute provision, adopted by the conference, which directs the Administrator to collect user fees for radon proficiency program that recover the costs of the proficiency program as well as an additional 1.5 million dollars per year for fiscal years 1991, 1992, 1993, 1994, and 1995. The substitute also directs the Administrator to conduct a study on the feasibility of establishing a mandatory proficiency program with a report to the Congress by March 1, 1991.

Department of Energy User Fee. The Act directs the Secretary of Energy to conduct a study of its user fee assessment and collection practices and recommend ways to improve those practices.

Department of Transportation. The Act requires the Department of Transportation to report on the assessment and collection of licensing fees under the Commercial Space Launch Act.

National Institute of Standards and Technology. The Act requires the Secretary of Commerce to study and report to Congress on current practices at, and any suggested improvements consistent with the mission of, the National Institute of Standards and Technology for recovering the costs of services and materials provided to private and non-profit organizations, including services provided on a proprietary basis to users of institute facilities.

In addition to these provisions the Committee had recommended imposing a surcharge on the fees currently collected under the National Waste Policy Act of 1982 (42 U.S.C. 10222) to reflect the fair market value of the Department of Energy's waste disposal activities and had recommended that the Administrator of the National Aeronautics and Space Administration study and report to Congress on NASA's user fee and assessment practices and recommend ways to maximize revenues and the advisability of recovering fair market value for certain services. These provisions were deleted in conference.

Title X of the Act incorporates the following provisions passed earlier by the Committee. The purpose and history of these provisions are presented in Chapter II of this summary.

The Aviation Research Grant Act of 1989 (H.R. 2581). This act authorizes the Federal Aviation Administration to award single and multiyear research grants to colleges, universities and nonprofit research centers and authorizes the establishment of Centers of Excellence for aviation related research.

The FAA Research, Engineering and Development Authorization for Fiscal Year 1991 (H.R. 4949). This act authorizes appropriations for aviation research, engineering and development and demonstrations for Fiscal years 1991 and 1992 and for other purposes.

The Aircraft Accident Prevention Act (H.R. 4887). This act amends the FAA Act of 1958 relating to research for prevention of defects, failures and malfunctions of aircraft engines, propellers and appliances which could result in a catastrophic failure or an accident.

Legislative History

On October 12, 1990, the Committee on Science, Space, and Technology favorably ordered reported Title X of the Omnibus Reconciliation Act, H.R. 5835, for consideration by the House of Representatives. On October 16, 1990 the House passed H.R. 5835. On October 18, 1990, the House agreed to a conference with the Senate. Conferees from the Committee on Science, Space, and Technology were appointed for consideration of Title X of H.R. 5835. The conference report was filed in the House and agreed to by the House on October 27, 1990 (H. Rept. 101-964). The Senate agreed to the conference report on October 27, 1990. Public Law 101-508 was signed by the President on November 5, 1990.

1.14—P.L. 101-510, NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 1991 (H.R. 4739, S. 2884)

Authorizing appropriations for fiscal year 1991 for military activities of the Department of Defense, for military construction, and for defense activities of the Department of Energy, to prescribe personnel strengths for such fiscal year for the Armed Forces, and for other purposes.

Summary of Committee Conference Activity

The Committee on Science, Space, and Technology was represented in the Conference on H.R. 4739, the National Defense Authorization Act for Fiscal Year 1991, for the following provisions:

Section 822, Critical Technologies Institute: This Section creates a Critical Technologies Institute as a federally funded research and development center. The Institute will provide research and analysis support to the Office of Science and Technology Policy by assisting panels of the Federal Coordinating Council on Science, Engineering and Technology, which plan and coordinate federal activities, to advance the development of critical technologies and strengthen the United States science and technology base.

Section 827, Use of Partnership Intermediaries: This Section authorizes the head of an agency which owns a laboratory to permit a

laboratory director or the federal employee who is the contract officer for a federally funded research and development center to enter into a contract or memorandum of understanding with a partnership intermediary and to pay the federal costs of such an agreement. At the Committee's suggestion, the definition of a partnership intermediary was clairifed by explicitly including State programs receiving funds under cooperative agreements entered into under section 5121(b) of the Omnibus Trade and Competitiveness Act of 1988 (P.L. 100-418). In addition, this Section gives the Secretary of Commerce responsibility for developing, in consultation with the Secretaries of Energy and Defense, model programs that will demonstrate successful relationships between the federal government and state and local governments which encourage economic growth through the commercial application of technology resulting from federally funded research.

Section 828, Technology Transfer Contract Provisions: This Section amends the National Competitiveness Technology Transfer Act of 1989 (NCTTA) (P.L. 101-189) to provide that contract provisions necessary to implement the NCTTA are limited to those necessary to carry out paragraphs (1) and (2) of subsecton 3133(d) of the NCTTA. The Committee, which primarily drafted the NCTTA as part of the National Defense Authorization Act for Fiscal Years 1990-1991 as described earlier in this Report, supported this amendment to the NCTTA due to concern that the Department of Energy was not implementing the provisions of the NCTTA in a timely manner. In addition, the Committee was concerned that the Department of Energy was insisting that its laboratories agree to the inclusion of provisions relating to agency waivers to rights to inventions and intellectual property where such waivers are not required by Section 12 of the Stevenson-Wydler Act of 1980 (P.L. 96-480) as amended by the NCTTA.

Sections 1011, Counter-Drug Technology Assessment Center: This Section establishes the Counter-Drug Technology Assessment Center to serve as the central counter-drug enforcement research and development organization of the United States Government. At the Committee's suggestion, the Conference Report states that it is expected that the Center will ensure that gaps do not develop in the development of technology, and that the focus of research and development in this area will be on the development of technologies that have the potential for realistic application, particularly technologies that will lead to the detection of illegal substances hidden in sealed containers.

Sections 1801 and 1802, Strategic Environmental Research and Development Program, and Availability of Funds: Section 1801 amends the United States Code by inserting new sections 2901-2904 to Title 10. Section 2901 of Title 10 authorizes the Secretary of Defense to establish a "Strategic Environmental Research and Development Program" (SERDP) to support basic and applied research that may assist the Departments of Defense and Energy in meeting their environmental obligations; to identify opportunities to transfer technology from the Departments of Defense and Energy to governmental and private organizations, and vice versa, that are involved in the development of technology to further energy development and environmental restoration; and to provide

government and private organizations with data, data collection ability, and analytic capabilities regarding the environment. Section 2902 establishes a "Joint Strategic Environmental Research Program Council" (Council) to identify, coordinate and prevent duplication of environmentally related research by the Department of Defense, the Department of Energy, the Environmental Protection Agency, the Department of Commerce, including the National Oceanic and Atmospheric Administration, the National Science Foundation, the Office of Science and Technology Policy, the Federal Coordinating Council on Science, Engineering and Technology, and other federal, state, and local agencies engaged in environmentally related research. In addition, among other duties, the Council is authorized to enter into contracts, grants and other financial arrangements to carry out the SERDP; to utilize the research capabilities residing at the federal laboratories; and to provide for joint research and development projects relating to innovative technologies by the Department of Defense, the Department of Energy, and the Environmental Protection Agency in conjunction with other Federal and State agencies as appropriate. Section 2903 authorizes the Secretary of Defense to appoint an Executive Director for the Council after consultation with the Secretary of Energy to carry out the responsibilities and policies of the Council. Section 2904 authorizes the Secretary of Defense and the Secretary of Energy, in consultation with the Administrator of the Environmental Protection Agency, to establish a Strategic Environmental Research and Development Program Scientific Advisory Board to review requests made to the Council for funding projects on environmentally related technology in excess of $1,000,000. In addition, among other duties, the Advisory Board is responsible for advising the Council on the identification of environmental data and analytical activities for which the Council must develop policies and procedures, and recommending projects and any legislative action the Council should take. Section 1802 authorizes funds for the program established in Section 1801.

Sections 3161–3168, Department of Energy Science Education Programs: These Sections may be cited as the "Department of Energy Science Education Enhancement Act". This Act amends the Department of Energy Organization Act (42 U.S.C. 7112) to state that science education is a mission of the Department of Enegy; provides general authorization to the Secretary of Energy to establish science education programs; provides authorization to the Secretary of Energy to establish specific laboratory and university based education programs, and authorizes the Secretary to accept non-Federal funds to finance these activities; authorizes the Secretary of Energy to enter into educational partnership agreements with local education systems and with colleges and universities; and authorizes $40 million to support university research and other science education programs administered by the Ofice of Energy Research. This Act reflects the Committee's efforts to enact portions of H.R. 5615, the Department of Energy Science Education Act, as introduced by Mrs. Lloyd on September 13, 1990.

In addition, the Committee on Science, Space, and Technology provided assistance to the other Conferees on Section 823, Manufacturing Technology. This Section directs the Secretary of Defense

to provide centralized guidance and direction to the Military Departments and Defense agencies on all matters related to manufacturing technology, including, the development and implementation of a National Defense Manufacturing Technology Plan; establishment of a Joint Manufacturing Technology Project to include all military departments; research and implementation in scientific disciplines relating to manufacturing technology; promotion of computer integrated manufacturing technology; enhancement of concurrent engineering practices in the design and development of weapons systems; and the promotion of manufacturing extension programs to assist small manufacturers. At the Committee's suggestion, the role of the Department of Commerce in the National Defense Manufacturing Technology Plan was changed from one of coordination to one of active participation because of the inappropriateness of the Department of Defense establishing Department of Commerce manufacturing priorities. In addition, this Section requires the Department of Defense to take into consideration, Department of Commerce programs in manufacturing technology established under the Omnibus Trade and Competitiveness Act of 1988 (P.L. 100-418) in planning and implementing its manufacturing extension programs.

The Conference report (H. Rept. 101-923) was filed in the House on October 23, 1990, and passed the House on October 24, 1990. The Conference report passed the Senate on October 26, 1990.

Public Law 101-510 was signed by the President on November 5, 1990.

1.15—P.L. 101-549, THE CLEAN AIR ACT AMENDMENTS OF 1990 (S. 1630)

To amend the Clean Air Act to provide for attainment and maintenance of health protective national ambient air quality standards, and for other purposes.

Background and Summary of Legislation

The research and development provisions of the Clean Air Act, with the exception of minor amendments, have remained essentially the same since 1970. Experience with air pollution trends and control efforts since that time, coupled with the on-going revision of the Clean Air Act, spurred the Committee to take a fresh look at present and future air pollution research, development, and technology needs.

Budgetary support for air pollution research and development activities in the Environmental Protection Agency has declined over the last ten years, with the exception of significantly increased expenditures for acid deposition research during the late 1980s. While it is recognized by the Bush Administration and many in Congress that stronger air pollution controls are needed to address continuing problems with respect to urban ozone, acid deposition, and toxic air pollutants, the failure to invest in air pollution research has resulted in inadequate knowledge about the relative risks of air contaminants and the most cost-effective methods for to controlling emissions. Despite significant advances in the last decade, scientific knowledge needed to develop sound and cost-effective regu-

latory policies remains incomplete. For example, scientific uncertainties remain about the chemical processes related to ozone formation and control; little is known about the physiochemical reactions of complex mixtures of air pollutants; the health effects of exposure to multiple contaminants is poorly understood; databases on the health and ecological effects and routine levels of exposure to air pollutants contain many gaps; and strategies for reducing or preventing air emissions need significant improvements.

The decline in real dollars over the past decade for federal support of EPA's Office of Research and Development explains, in part, the many unanswered questions related to air pollution. EPA's research program is about 20 percent smaller now than it was ten years ago, when inflation is considered. Total full-time personnel have declined by almost 500 positions, a 20 percent decrease, since 1980. These decreases have occurred during a time when EPA's regulatory responsibilities have been steadily expanding.

In 1980, total EPA R&D for air pollution was $68 million, with an additional $2 million for acid deposition research and about $100 million for energy-related air pollutant research and engineering. The "traditional" air pollution research program has remained essentially flat over 10 years, while research for acid rain dramatically expanded to $55 million in the late 1980's, declining in the FY 91 budget request to $12 million. EPA efforts to develop cleaner energy technologies and other energy-related research have been virtually eliminated.

The effects of declining investment in research have led many observers, including EPA's Science Advisory Board, to conclude that the overall research resources are insufficient to meet regulatory and statutory needs. The lack of solid scientific information has frequently led to significant delays in decisionmaking and has forced policymakers to make judgements in the face of substantial—and unnecessary—scientific uncertainty. Moreover, the Science Advisory Board has expressed "serious reservations" about the adequacy of the Fiscal Year 1990 budget request for research at EPA.

Another reason to explain the lack of scientific capability and progress lies in the fact that EPA research programs are often called upon to carry out short-term, applied research to support the latest regulatory need. Although this is a useful function, it often occurs at the expense of essential long-term research. Thus, the failure to gain knowledge required to develop sound air pollution policies can be attributed largely to inadequate resources for research and too narrow and short-term a focus in the existing research programs.

Environmental monitoring is a key component of understanding air pollution processes, trends, and effects. While EPA has deployed many ambient and source-specific air pollution monitoring devices over the last ten years, many of the individual monitors are intended to detect single pollutants for particular regulatory programs. With the exception of the acid deposition network, EPA's air pollution monitors and data analysis system do not constitute an integrated network capable of providing regional trend analyses for a range or air pollutants of concern. Concerns about the accura-

cy and utility of EPA's present monitoring systems have been raised by many, including the Government Accounting Office. There is also concern that, with the passage of a Clean Air Act containing acid rain control provisions, there will be pressure to dismantle the acid deposition monitoring network that EPA has spent millions of dollars in the last ten years to establish.

The hearings established the need for EPA to investigate possible strategies for expanding the capabilities of the air pollutant monitoring networks and stations now in place and planning for a more comprehensive, coordinated national ambient air monitoring network. Often, air pollution problems such as acid rain, ozone nonattainment, and global warming from the "greenhouse effect" are interrelated in their sources as well as their effects. Understanding the complex mechanisms that govern the behavior of various constituents in air (sulfur oxides, nitrogen oxides, hydrocarbons, carbon dioxide, and so on) will be central to understanding their effects and how best to control them.

The complex nature of ecological systems makes it difficult to study and predict adverse effects of long-term exposures to a mix of air pollutants. The hearings addressed areas in which further research would benefit our understanding of the adverse effects of air pollution on ecosystems. For example, there is some evidence to suggest that ecosystems are subject to episodic as well as gradual changes as a result of air pollution, such as sudden changes in basic ecological characterizations such as productivity, species composition, and the like. These effects are poorly understood, and could have important implications for control strategies designed to protect not only human health but the ecological environment which sustains life. There is also a need to understand the interactions between the stresses caused by air pollution and the effects of global warming on ecological systems.

While considerable research has been conducted on the human health effects of certain individual chemical compounds, such as ozone, much research remains to be conducted on the health effects of complex mixtures of air pollutants. In addition, the health effects of certain compounds, such as nitrogen oxides, are still insufficiently understood to develop emissions control strategies based on human health risks. Information on the actual levels of human exposure to air pollutants is also insufficient which limits the ability to determine the relative risk presented by various pollutants or combinations of pollutants.

Research to determine the short-term and long-term health effects of toxic chemicals is carried out by several Federal agencies and departments including EPA, the National Institute for Environmental Health Sciences (NIEHS), and the Agency for Toxic Substances and Disease Registry (ATSDR). Although an informal mechanism for coordination of research exists, the creation of an interagency task force would provide a better framework for efficient planning and execution of health effects research.

Title IX and X of P.L. 101-549 set out amendments to the research provisions of the Clean Air Act. The conference agreement approved by the House and Senate adopted the House passed version (H.R. 3030) and the R&D title with several changes drawn from the Senate bill. The primary change involved adoption of the

Senate's proposal to continue the acid rain research program begun under the National Acid Precipitation Assessment Program with a Task Force composed of several agency heads. The agreement also adopted the Senate's Western Lakes and Waters research provision.

The agreement provided for an EPA program of research, testing, and development of methods for sampling, measurement, monitoring, analysis, and modeling of air pollutants. In addition EPA is required to conduct an environmental health research program on the short-term and long-term effects of air pollution.

EPA is further directed to conduct an ecosystems research program and, in consultation with the Secretary of Energy and others, to oversee an experimental research and analytical research and field testing effort at the Liquefied Gaseous Fuels Spill Test Facility in Nevada.

EPA is directed to conduct a basic engineering research and technology program to develop and demonstrate non-regulatory strategies for air pollution prevention. In addition, EPA will conduct a research program to identify, characterize, and predict air emissions related to the production, distribution, storage, and use of clean alternative fuels to determine the risks and benefits to human and health and the environment relative to those from using conventional gasoline and diesel fuels.

The Administrator is also required to develop and implement a plan for coordinating research with other Federal ecological and air pollution research efforts. The assessment conducted under the new "Coordination of Research" provision of Section 103 may include an evaluation of the applicability, accuracy, reliability, and cost-effectiveness of an expanded stationary source network and a system that utilizes personal monitoring techniques.

A study that compares international air pollution control technologies of selected industrialized countries will also be conducted for the purpose of determining if such technologies might have beneficial applications in the United States.

Legislative History

On November 16, 1989, the Subcommittee on Natural Resources, Agriculture Research, and Environment held hearings to determine priorities for future air pollution research and development activities in the federal government. The hearing examined areas where additional research is needed to understand the sources, fate, and transport of air pollutants, to monitor air quality trends, and to improve our understanding of the effects of air pollution on human health and ecosystems. The Subcommittee also considered areas where additional research is needed to develop improved air pollution prevention and reduction strategies, including improved emissions control technologies, as well as research needed to measure the future effectiveness in protecting human and ecological health of amendments to the Clean Air Act. Witnesses testifying before the Subcommittee were Dr. John Skinner, Acting Deputy Assistant Administrator, EPA's Office of Research and Development; Dr. James Mahoney, Director, National Acid Precipitation Assessment Program; Dr. James Fouts, Senior Scientific Advisor, National Institute of Environmental Health Sciences; Dr. Barry

Johnson, Assistant Administrator, Agency for Toxic Substances and Disease Registry; and Dr. Orie Loucks, Miami University. Based on the hearing, the Subcommittee prepared amendments to the research provisions of the Clean Air Act.

On March 1, 1990, the Subcommittee met, and having considered the Committee Print containing amendments, approved the Committee Print with amendments and forwarded it to the full Committee for further consideration. On March 6, 1990, Subcommittee Chairman Scheuer introduced H.R. 4197, the "Clean Air Act Amendments of 1990", which incorporated acid rain research provisions from H.R. 3816 (Smith, R-NH). On March 8, 1900, the full Committee approved the bill by unanimous voice vote and ordered that the bill as amended be reported (Report 101-445, Part 1). The bill was incorporated subsequently as Title IX of the Clean Air Act, H.R. 3030, which passed with 401 affirmative votes on May 23, 1990. The research and development provisions were debated as part of the Clean Air Act Conference with portions of the Senate provisions on acid rain research and several technical amendments included in the conference report. The Clean Air Act Conference Report (101-952) was filed and subsequently approved by the House of Representatives on October 26, 1990 and approved by the Senate on October 27, 1990. The bill was signed by the President on November 14, 1990 and became Public Law 101-549. Committee Publication Number 101-88.

1.16—P.L. 101-566, THE SPARK M. MATSUNAGA HYDROGEN RESEARCH, DEVELOPMENT, AND DEMONSTRATION ACT OF 1990 (H.R. 4521, S. 639)

The Act provides a three year authorization for a coordinated hydrogen reserch, development and demonstration program at the Department of Energy (DOE) for the years FY 1992, FY 1993, and FY 1994.

Summary and Background of Legislation

Growing concern over environmental problems associated with fossil fuel emissions has led to renewed interest in alternative fuels. The abundance of hydrogen may make it an attractive alternative to conventional fuels if additional research and development is successful in reducing the cost of producing hydrogen in large quantities.

The legislation initiates a three year coordinated national research, development and demonstration program to accelerate activities leading to a realization of a domestic capability to produce, distribute, and use hydrogen economically within the shortest time practicable.

The Act calls for a comprehensive management plan to be coordinated by the Secretary of Energy but in consultation with the Administrator of the National Aeronautics and Space Administration, the Secretary of Transportation, the Hydrogen Technical Advisory Panel established under the Act and heads of other Federal agencies as deemed appropriate. The Act also calls for the establishment of a Technical Panel consisting of interested parties, to be appointed by the Secretary, to review and make recommendations re-

garding the implementation and conduct of the Hydrogen research, development and demonstration program.

The Act authorizes $3 million for FY 1992, $7 million in FY 1993, and $10 million in FY 1994 to carry out the purposes of the legislation.

Legislative History

H.R. 2793 was introduced on June 29, 1989, by Reps. Brown (CA), Valentine, Lewis (FL), Akaka and Scheuer. The bill was referred to the Committee on Science, Space, and Technology. A joint hearing on the bill was held on October 18, 1989, by the Subcommittees on Energy Research and Development and Transportation, Aviation and Materials. Both Subcommittees marked up the bill on April 4, 1990. On April 18, 1990 a clean bill was introduced, H.R. 4521. The Committee on Science, Space and Technology, a quorum being present, favorably reported the bill as amended, on April 18, 1990. The legislative report (H. Rept. 101-474) was filed on May 3, 1990. H.R. 4521 passed the House after consideration on the Suspension Calendar on May 8, 1990.

S. 639, a similar, but no identical bill, was introduced in the Senate by Senator Matsunaga. The bill was referred to the Engergy and Natural Resources Committee and the Subcommittee on Energy Research and Development. The Subcommittee on Energy Research and Development held a hearing on the bill on March 30, 1990. S. 639 was considered by the Senate Energy and Natural Resources Committee on June 20, 1990 and passed by a roll call vote of 19-0. S. 639 was considered by the full Senate on October 16, 1990, under Unanimous Consent.

S. 639 passed the House on October 23, 1990 after consideration on the Suspension Calendar.

Public Law 101-566 was signed by the President on November 15, 1990. Committee Publication Numbers 101-80, and H. Rept. 101-74.

1.17—P.L. 101-580, INVENTIONS IN OUTER SPACE (S. 459)

To amend title 35, United States Code, and the National Aeronautics and Space Act of 1958, with respect to the use of inventions in outer space.

Summary and Background of Legislation

Over the past five years, the Science, Space, and Technology Committee, as well as the House and Senate Judiciary Committees, have considered legislation that will define and describe the governance of patents for inventions in outer space. This legislation is critical, not only to clarify the law for an emerging commercial industry, but to enable the accomplishment of international cooperative projects in space such as the Space Station Freedom.

This bill establishes that an object made, used, or sold in outer space will be considered to be made, used, or sold in the United States if one or two criteria are met. The first criteria is if the spacecraft is under the jurisdiction or control of the United States, unless otherwise provided in an international treaty or unless the spacecraft is registered to a foreign state. The second criteria is, ir-

respective of the jurisdiction or control, if provided or stipulated in an international treaty to which the U.S. is a party.

This bill establishes a climate of legal certainty for intellectual property rights in space at a time when it is crucial to nurture and facilitate the development of a commercial space industry.

Legislative History

In the 99th Congress, the House acted favorably on H.R. 4316, and in the 100th Congress the House passed H.R. 1510. Neither bill was taken up by the Senate.

In the 101st Congress, Mr. Kastenmeier introudced H.R. 2946, To Amend Title 35, U.S.C. With Respect To The Use of Inventions in Outer Space, which was jointly referred to the Committee on the Judiciary and the Committee on Science, Space, and Technology. (See Chapter II for further discussion of H.R. 2946.) S. 459 reflects the essential language and intent of this bill.

S. 459 was introduced by Senator Gore on February 28, 1989, and referred to the Senate Judiciary Committee. On March 13, 1989, it was referred to the Subcommittee on Patents, Copyrights and Trademarks. On July 26, 1989, it was approved by the Subcommittee for full committee consideration with an amendment in the nature of a substitute. On March 22, 1990, the Committee on the Judiciary ordered the bill reported with an amendment in the nature of a substitute (Legislative Report 101-266). On May 1, 1990, the Senate passed S. 459, as amended, by Voice Vote.

On May 3, 1990, the bill was refered to the House Committee on the Judiciary, and on May 4, 1990, to the Subcommittee on Courts, Intellectual Property, and the Administration of Justice. On October 26, 1990, the House Committee on the Judiciary discharged S. 459 by unanimous consent, the measure was called up by the House and passed by Voice Vote.

S. 459 was signed by the President on November 15, 1990 and became Public Law 101-580. Committee Publication Number 101-65.

1.18—P.L. 101-589 THE EXCELLENCE IN MATHEMATICS, SCIENCE, AND ENGINEERING EDUCATION ACT OF 1990 (H.R. 396/2114)

To promote excellence in American mathematics, science and engineering education; establish undergraduate scholarships for mathematics, science and engineering; enhance the scientific and technical literacy of the American public; stimulate the professional development of scientists and engineers, including increasing participation of women and minorities in careers in science and engineering; and for other purposes.

Summary and Background of Legislation

Over the past several years international comparisons of students performance levels in science and mathematics have shown that American students consistently fall below their foreign counterparts. In addition, at a time when the size of the traditional college-aged population group has decreased by about 25 percent, a declining percentage of undergraduate students is choosing to study science, mathematics or engineering. In order to ensure a continu-

ing supply of scientists and engineers to meet the needs of industry, academia and government, science and mathematics instruction at the elementary and secondary levels must be improved, and more students must be encouraged to pursue careers as scientists and engineers, especially more women and minorities who have bene traditionally underrepresented in these fields.

Public Law 101-589 amends the Dwight D. Eisenhower Mathematics and Science Education Act (20 U.S.C. 2983) to give priority in the use of Eisenhower Act funds to training mathematics teachers and science teachers in elementary and secondary schools; to authorize establishment of a National Clearinghouse for Mathematics, Science and Technology Education to serve as a permanent repository of science, mathematics, and technology education instructional materials and programs for elementary and secondary schools; to authorize awards to model programs for training and instruction in the use of computers as part of the mathematics and science curriculum of elementary and secondary schools; and to authorize awards to establish and operate regional mathematics, science and education consortia for the purpose of disseminating exemplary instructional materials and providing technical assistance for the implementation of teaching methods and assessment tools for use by elementary and secondary school students, teachers and administrators.

Public Law 101-589 authorizes three new competitive, merit-based scholarships of $5000 per year for undergraduate study of science, mathematics and engineering. The National Science Scholars Program will provide up to five years of support to one male and one female student from each congressional district who has demonstrated outstanding academic achievement. Under the Robert Noyce Scholarship Progrm, up to two years of support is authorized for up to 500 students per year who are willing to commit themselves to teaching elementary or secondary school science or mathematics. Under the third scholarship program, the Secretary of Education is authorized to establish a National Academy of Science, Space, and Technology for the instruction and preparation of individuals willing to commit to working as a scientist or engineer in the employ of the U.S. or a U.S. corporation. One student from each congressional district is authorized to receive a four-year scholarship for attendance at any accredited institution of higher education.

Public Law 101-589 authorizes several education programs at the National Science Foundation (NSF): support for research programs for use of computers, telecommunications and related technologies in basic mathematics, science and technology instruction; support for science-technology centers for the development and dissemination of more effective, hands-on, interactive mathematics, science and technology programs and activities; awards to States or State educational agencies for projects that implement system-wide improvement in elementary or secondary school mathematics and science education; awards to encourage institutions of higher education to improve, and to give greater attention to, undergraduate instruction in science, mathematics and engineering; and awards to support faculty and institutional initiatives to improve science, mathematics and engineering instruction for women and minority

students. Also, Public Law 101-589 authorizes an increase in the number of NSF graduate fellowships and establishes a graduate traineeship program at NSF to encourage promising students, especially women and minorities, to continue their education and research in mathematics, science and engineering.

Finally, Public Law 101-589 requires the Director of the Office of Science and Technology Policy to prepare an interagency plan for improvement of science, mathematics, and engineering education, as well as authorizes the Secretary of Energy to carry out a wide array of science, mathematics, and engineering education programs at various Department of Energy research facilities.

Legislative History

H.R. 996, the Congressional Scholarships for Science, Mathematics, and Engineering Act was introduced by Mr. Walgren on February 9, 1989; H.R. 1217, the Science, Mathematics, and Research Technologies Scholarships Act was introduced by Mr. Slaughter on March 1, 1989; and H.R. 1293, National Awards for Mathematics and Science Teaching Act of 1989 was introduced by Mr. Boehlert on March 8, 1989. All three bills were referred to the Committee on Science, Space, and Technology. The Subcommittee on Science, Research, and Technology held a hearing on March 9, 1989 on the three science scholarship bills. Witnesses representing the American Association for the Advancement of Science, the Council of Scientific Society Presidents and Sigma Xi (the Scientific Research Society), and the President of the Carnegie Foundation for the Advancement of Teaching presented their views on these legislative proposals. The testimony focused on the need for and likely benefits of undergraduate scholarships in science, mathematics, and engineering.

On April 12, 1989, the Subcommittee marked up and reported by voice vote proposed legislation on scholarships for students pursuing higher education in science, mathematics and engineering. The product of the Subcommittee action was a bill which added to the four-year undergraduate scholarship program of H.R. 996, two additional scholarship programs for the junior and senior years of college based on several provisions from H.R. 1293 and from H.R. 1217. The provisions for graduate scholarships in H.R. 1217 were not included in the Subcommittee's reported bill. A new provision, not present in any of the bills as introduced, was added to the reported bill which removed eligibility from a recipient of any scholarship and required repayment, with interest at the maximum legal rate, within 90 days for any conviction of use, possession or distribution of a controlled substance or of any felony.

On July 27, 1989, the Committee on Science, Space, and Technology marked up H.R. 996 as reported by the Subcommittee on Science, Research and Technology. The principal actions taken were to: exempt nominating committees associated with the four-year scholarship program from the requirements of the Federal Advisory Committee Act; amend the NSF Authorization Act of 1988 to include a specific new authorization for the undergraduate scholarship program; target awards under one of the two-year scholarship programs for students in fields in which shortages of scientific and technical personnel are projected in the U.S.; convert four-year

scholarships to student loans for recipients who fail to maintain eligibility; modify the provisions regarding penalties for drug or felony convictions; and allow NSF in making selection of awards among individuals of essentially equivalent qualifications to include consideration of financial need and the promotion of participation by women, minorities, and individuals with handicaps.

The Committee ordered the bill reported favorably, with an amendment, by voice vote on July 27, 1989, a quorum being present. The legislative report (H. Rept. 101-220) was filed on August 4, 1989. H.R. 996, as amended, passed the House on September 12, 1989, by voice vote under suspension of the rules. On September 13, 1989, H.R. 996 was referred to the Senate Committee on Labor and Human Resources.

During the second session of the 101st Congress, the Subcommittee on Science, Research and Technology held hearings on June 7 and 14, 1990, on a draft science education bill which combined provisions from H.R. 3154 and H.R. 2270, both introduced by Mr. Brown (of California), from H.R. 3122, introduced by Mr. Price, H.R. 4331, introduced by Mr. Buechner, and H.R. 1720, introduced by Mr. Walgren. The provisions in the draft bill would have created several new education programs at NSF to expand scientific literacy, improve technical training in advanced technology occupations, and increase the number of students pursuing careers in science, engineering and technology.

In the Senate, the Excellence in Mathematics, Science, and Engineering Education Act of 1990, S. 2114, was introduced by Senator Kennedy on February 8, 1990, and referred to the Committee on Labor and Human Resources. In addition to authorizing undergraduate scholarships, S. 2114 included specific science and mathematics education programs at the Department of Education and at NSF. Most of the programs authorized at NSF paralleled provisions in the draft science education bill of the Subcommittee on Science, Research and Technology. Hearings were held on the legislation on April 19, May 14, and May 18, 1990. The Labor and Human Resources Committee ordered the bill reported with an amendment in the nature of a substitute on July 18, 1990 and filed the report on August 1, 1990 (Senate Rept. 101-412). Also on July 18, 1990, H.R. 996 was ordered reported without amendment. On August 3, 1990, the Senate passed H.R. 996 with an amendment substituting the text of S. 2114, as reported. Further, the Senate insisted on its amendment, requested a conference with the House, and appointed conferees (Senators Kennedy, Pell, Dodd, Hatch and Kassebaum).

On October 19, 1990, the House disagreed to the Senate amendment to H.R. 996, agreed to the conference requested by the Senate, and appointed conferees from the Committee on Science, Space, and Technology for consideration of the House bill and the Senate amendment, except sections 201, 221, and 601 (Reps. Roe, Brown, Walgren, Valentine, Price, Walker, Boehlert, and Slaughter), and from the Committee on Education and Labor for consideration of the House bill and the Senate amendment, except sections 231, 251, 301, 321 through 323, 401 through 404, and 602 (Reps. Hawkins, Ford, Williams, Owens, Sawyer, Goodling, Coleman, and Bartlett).

The conferees on H.R. 996 met on October 22, 1990, to discuss a staff proposal to reconcile the House and Senate versions of H.R. 996 and agreed to file the Conference Report based on the staff proposal. The Conference Report was filed in the House (H. Rept. 101-937) on October 24, 1990 and in the Senate (S. Rept. 101-412) on October 25, 1990. The Conference Report on H.R. 996 was passed by the House on October 25, 1990 and passed by the Senate on October 26, 1990. H.R. 996 was signed by the President on November 16, 1990, becoming Public Law 101-589.

Committee Publication Numbers 101-21 and 101-150, and H. Rept. 101-220 and H. Rept. 101-937.

1.19—P.L. 101-592, FASTENER QUALITY ACT OF 1989 (H.R. 3000)

To reduce the danger and cost of fastener failure in buildings, aircraft, motor vehicles, military equipment, and in other critical uses by requiring that fasteners used in high strength or critical applications conform to the standards and specifications declared by the manufacturer.

Summary and Background of Legislation

The purpose of Public Law 101-592 is to prevent counterfeiting fasteners by requiring testing and documentation. The law would ensure that a supply of quality fasteners exists for use in critical applications by requiring final testing of sample fasteners by an accredited laboratory for conformance to standards, specifications, and grade identification markings, before the lot from which the sample is drawn can be sold. Public Law 101-592 also requires certificates of conformance to document the test results, traceability through a registered manufacturer's mark on the fastener, and a lot number identification on the shipping container. Provisions for civil and criminal penalties are designed to encourage compliance. The measure is intended to assist the fastener industry to police its own ranks and to promote competitive sources of supply for fasteners used in critical applications.

The U.S. uses billions of fasteners in buildings, nuclear power plants, bridges, motor vehicles, airplanes, and other equipment each year. High strength bolts are used by the military, the space program, and private industry. In recent years, counterfeit and substandard metal fasteners, produced both in the U.S. and abroad, have pervaded U.S. industry, creating a significant national safety problem. As a result both the military and civilian sectors of the economy have experienced dangerous equipment and construction failures, as well as extraordinary expenses.

Since the problem of counterfeit and substandard metal fasteners was initially identified, collective steps taken by industry and the government have proven to be very costly. In some cases, entire inventories have been scrapped and structures have been reassembled. Fastener failures have also led to increased emphasis on supplier quality and receipt inspection. Even though industry might be able to correct the problem with increased surveillance of fastener suppliers and sole source procurement, such actions could result in decreased competition among producers and protection for the unwary would not be provided. Existing laws governing transac-

tions between buyer and seller have been ineffective in eliminating the danger created by counterfeit fasteners introduced into the Nation's infrastructure.

Legislative History

H.R. 336, a proposal to use standardization of weights and measures through laboratory accreditation to solve the counterfeit fastener problem, was introduced on January 3, 1989, by Chairman Roe and referred to the Committee on Science, Space, and Technology. The Subcommittee on Science, Research and Technology held hearings on the bill on April 5, 1989. H.R. 777, a proposal to solve the problem of counterfeit fasteners from a regulatory perspective was introduced by the Chairman of the Committee on Energy and Commerce, Mr. Dingell, on February 2, 1989 and referred to the Committee on Energy and Commerce. A hearing on H.R. 777 was held on March 15, 1989 by the Subcommittee on Commerce, Consumer Protection, and Competitiveness.

H.R. 336, was a substantially revised version of H.R. 5120, introduced in the 100th Congress by Chairman Roe; H.R. 777 was a redraft of H.R. 5051, introduced by Mr. Dingell, also in the 100th Congress. Recognition that H.R. 336 and H.R. 777 were largely complementary led Chairman Roe and Dingell to draft a composite bill, H.R. 3000, "The Fastener Quality Act of 1989," which incorporated provisions of the previous bills.

H.R. 3000 was introuduced by Chairmen Dingell and Roe on July 25, 1989 and was jointly referred to the Committee on Energy and Commerce and the Committee on Science, Space, and Technology. Over 100 Members joined in cosponsoring the bill. The Committee on Science, Space, and Technology ordered the bill reported favorably by voice vote on August 2, 1989, a quorum being present. The legislative report (H. Rept. 101-211, Part 1) was also filed on August 2, 1989. The Committee on Energy and Commerce ordered the bill reported favorably on September 12, 1989 (H. Rept. 101-211, Part 2). H.R. 3000 passed the House, amended, under suspension of the rules on September 19, 1989 by voice vote.

On September 20, 1989 it was referred to the Senate Committee on Commerce, Science, and Transportation. A hearing was held on the bill by the Senate Subcommittee on Science, Technology, and Space on November 20, 1989. On July 23, 1990, the Senate Commerce, Science, and Transportation Committee reported H.R. 3000 with minor amendments (S. Rept. 101-388). On October 26, 1990, H.R. 3000, with one further minor amendment, passed both the House and the Senate by voice vote, clearing the measure for the President. H.R. 3000 was signed by the President on November 16, 1990, becoming Public Law 101-592. Committee Publication Number 101-10.

1.20—P.L. 101-606, THE GLOBAL CHANGE RESEARCH ACT OF 1990 (S. 169, H.R. 2984)

To require the establishment of a United States Global Change Research Program aimed at understanding and responding to global change, including the cumulative effects of human activities and natural processes on the environment, to promote discussions

toward international protocols in global change research, and for other purposes.

Background and Summary of Legislation

Global environmental degradation brought about as a result of human industrial activity is becoming increasingly evident. Thousands of plant and animal species are becoming extinct each year, tropical rainforests are cut down and burned at alarming and unprecedented rates, European and North American forests are damaged and dying from the effects of acid rain and air pollution, the stratospheric ozone layer is thinning from the release of chlorofluorocarbons, and scientsts are predicting that the average temperature of the Earth may increase to levels never before experienced in human history. These problems are commonly grouped together under the general rubric of "global change," a term which reflects a growing concern that human activities may be causing changes on a planetary scale, possibly adversely affecting the global environment.

In many nations, concern over threats to the earth's habitability and ecological health has led to increased research, which relies increasingly on methods such as remote sensing and computer modeling, to study earth system processes and trends. A new way of thinking in the earth sciences has emerged: researchers have begun to show a renewed interest in studying the Earth as an integrated whole, and are using interdisciplinary approaches to increase understanding of the highly complex and dynamic interactions between all components of the Earth system—biological, chemical, physical, and social. Interdisciplinary studies are becoming increasingly popular in U.S. universities as well as in Federal agencies.

An important component of global change research is the study of global climate change. Although natural climatic processes and trends have produced a wide variety of climatic conditions on Earth throughout the millenia, there is worldwide concern that human activities may be altering the world's climate regimes in ways which could be detrimental and are currently unpredictable.

Legislative concern that the nation needs a coordinated, comprehensive research program to improve understanding of the Earth's climatic processes and trends began in the mid-1970's, which arose partly as a result of a series of anomalous climatic events such as El Nino. Another event which caused concern over the global environment was the surprising discovery of an "ozone hole" over Antarctica in 1985 by scientific researchers. The discovery rekindled the debate over the use of chlorofluorocarbons (CFCs), molecules which deplete stratospheric ozone. More recently, scientists have warned of global warming caused by the atmospheric buildup of carbon dioxide, methane, nitrous oxide, and CFCs, all of which absorb infrared radiation in a phenomenon known as the "greenhouse effect." By the middle of the next century, a doubling of the pre-industrial level of carbon dioxide (or the equivalent when the effect of other trace gases is taken into account) could commit the earth to a global temperature rise from 2.8 degrees to 5.2 degrees Celsius. A three-degree Celsius increase in the average global tem-

perature would place the average temperature of the earth outside the realm of human experience.

Seven Federal agencies are currently engaged in focused, fundamental research designed to study the Earth as a system and to increase our understanding of global change, including the Department of Commerce, Department of Energy, Department of Interior, Environmental Protection Agency, National Aeronautics and Space Administration, National Science Foundation, and Department of Agriculture. These agencies recently have boosted their global change research efforts, in response to markedly increased national and international interest in global environmental issues. In Fiscal Year 1990 the total budget for focused global change research was $659.3 million; for Fiscal Year 1991 the President has requested a budget total of $1.034 billion for global change research, a 57 percent increase.

The need for better coordination of the rapidly growing Federal global change and earth science research programs led to the establishment by the President of the Committee on Earth Sciences in March of 1987, now called the Committee on Earth and Environmental Sciences (CEES). The CES was created by the Federal Coordinating Council on Science, Engineering, and Technology (FCCSET) in the Office of Science and Technology Policy (OSTP), under authority of Executive Order. The purpose of CEES, as stated in its charter, is to increase the overall effectiveness and productivity of Federal R&D efforts directed toward an understanding of the Earth as a global system.

Despite the success CEES has achieved in coordinating Federal global change research efforts, there are several reasons why legislation establishing the CEES and setting specific requirements for CEEs is needed. First, given that several previously formed interagency coordinating mechanisms have failed to achieve their respective missions in the past, the CEEs is viewed by many as an experiment which will require strong support from and oversight by Congress. Second, the CEES exists only by an Executive Order and has no legislative authority except general authority under the National Science and Technology Policy, Organization, and Priorites Act. Should the CEES fall into disfavor with the President, he would be free to abolish it. In fact, unless its charter is extended, the Committee will terminate on December 31, 1990. Third, although the CEES to its credit has reported to Congress regularly on its activities, there are currently no specific reporting requirements to ensure that CEES reports to Congress as well as to the public, and remains a credible, publicly responsive entity.

Fourth, although the Committee has prepared a research plan, Congress lacks the appropriate authority to influence or direct the elements of any research plans developed by the Committee. Moreover, in preparing its research plans, the Committee is not required to interact with or consider the comments of outside groups such as industry, environmental, and state and local government groups. It is critical that the scientific information produced as a result of research is useful to policymakers attempting to formulate cost-effective strategies for preventing and ameliorating the effects of global change.

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Therefore, legislation which creates the CEES, specifies its structure and functions, assigns it certain reporting requirements, and endows it with adequate staff would provide the necessary Congressional direction to ensure that the CEE's global change activities will continue to be successful in the long term.

Title I of the Global Change Research Act formally establishes the CEES and creates a permanent Global Change Reseach Program. A research Plan is required, as well as reports to Congress and scientific assessment documents which describe global change trends and scientific uncertainties. The need to make scientific information useful and available to policymakers is emphasized. Title II of the bill directs the Administration to work toward two international protocols, one for international cooperation in global change research, and the other for the development of environmentally safe energy technologies.

Title III directs the Department of Commerce to develop a "decision aid" for assisting local and state governments in their development planning for urban and rural communities. The title derived from H.R. 2457, a bill introduced by Congressman Robert Walker to require the Environmental Protection Agency to conduct a study to produce a decision-making aid to assist state and local authorities in planning and managing suburban and rural growth development. The proposed study was intended to assist communities in their planning and development, and would examine ways in which the federal government may be uniquely suited to help local authorities facing increasing demands on land and infrastructure, and preserve environmental quality for the future.

Legislative History

On July 24, 1989, H.R. 2984, the "Global Change Research Act of 1989", was introduced by Chairman Robert A. Roe and jointly referred to the Committees on Science, Space, and Technology; Foreign Affairs; and Merchant Marine and Fisheries. The Subcommittee on Natural Resources, Agriculture Research, and Environment and the Subcommittee on International Scientific Cooperation held hearings on H.R. 2984 and related legislation on July 27, 1989. The Subcommittees received testimony from Dallas L. Peck, Chairman of the Committee on Earth Sciences and Director of the United States Geological Survey; William Moomaw, Senior Associate and Program Director, World Resources Institute; Robert Watson, Chief, Upper Atmospheric Research/Tropospheric Chemistry Branch, National Aeronautics and Space Administration; Frederick M. Bernthal, Assistant Secretary for Oceans, International Environment and Scientific Affairs, United States Department of State; Christopher Bernabo, President, Science and Policy Associates, Thomas Malone, St. Joseph College; and Ross Stevens, Global Climate Coalition and Manager of Environmental Affairs, E.I. du Pont de Nemoirs.

On March 2, 1990, the Subcommittee convened a field hearing in Lancaster, Pennsylvania to discuss the provisions of H.R. 2457, and to receive testimony from local and state officials and interested citizens on the effect of rapid growth on their communities. Witnesses included: John Showers, the Governor's Advisor on Rural Affairs; Ronald T. Bailey, planning director, Lancaster County

Planning Commission; Amos H. Funk, Chairman of Lancaster County's Agricultural Preserve Board; Dr. Colin Johnstone, New Bolton Center; and Thomas E. Despard, President of the Building Industry Association.

On November 16, 1989, the Subcommittee on Natural Resources, Agriculture Research and Environment and the Subcommittee on International Scientific Cooperation marked up H.R. 2984 in separate sessions. Each subcommittee adopted identical amendments and by voice vote forwarded the bill as amended to the Full Committee for further consideration. On April 18, 1990, the Committee on Science, Space, and Technology favorably reported H.R. 2984 by voice vote with a substitute amendment.

A similar bill, S. 169, was passed by the Senate on February 6, 1990. On October 26, 1990, S. 169 passed in the House with a substitute amendment under suspension of the rules. Included in the substitute amendment was Title III, a provision requiring the Department of Commerce to develop a "decision aid" to help planners in making their urban and rural development decisions. The Senate then approved S. 169 as amended on October 27, 1990. The bill was signed by the President on November 16, 1990, and became Public Law 101-606. Committee Publication Number 101-74.,

1.21—P.L. 101-609 AMENDMENTS TO THE ARTIC RESEARCH AND POLICY ACT OF 1984 (S. 677/H.R. 2317)

To amend the Arctic Research and Policy Act of 1984 to improve and clarify its provisions.

Summary and Background of Legislation

The Arctic Research and Policy Act of 1984 (P.L. 98-373), and implementing Executive Order 12501, established the Arctic Research Commission and the Interagency Arctic Research Policy Committee. These two entities were given responsibility to develop and implement a comprehensive, coordinated research policy to guide the scientific research activities of the U.S. in the Arctic.

The Arctic Research Commission is made up of five members appointed by the President of the U.S. Three of the Commissioners are appointed from among members of the academic community with expertise in areas of research relating to the Arctic. One Commissioner is appointed from among individuals familiar with the Arctic and the needs of private industry performing resource development in the Arctic. One Commissioner is appointed from among the indigenous residents of the Arctic. The Director of the National Science Foundation is an ex offico member of the Commission.

The Interagency Committee is chaired by the Director of the National Science Foundation, and is made up of representatives of the Departments of Commerce, Defense, Energy, Interior, State, Transportation, and Health and Human Services. Representatives of the National Aeronautics and Space Administration and the Environmental Protection Agency are also members of the Committee, as are representatives of other agencies that are deemed appropriate.

In order to improve the effectiveness of this oversight arrangement for federal Arctic research programs, the Commission recommended several technical amendments to the Act, which were also

endorsed by the Interagency Committee. In particular, Public Law 101-609 expands the Commission from five to seven members to broaden the range of scientific representation, as well as help ensure a quorum at business meetings, and sets the compensation of Commissioners at the same daily rate as members of the Marine Mammal Commission. The Commission is also given explicit authority to call on outside specialists as needed for technical support. Finally, Public Law 101-609 changes reporting requirements to Congress that will make the Interagency Committee more responsive to the Commission's recommendations.

LEGISLATIVE HISTORY

S. 677 was introduced by Senator Murkowski on March 17, 1989, and was referred to the Committee on Governmental Affairs. The Committee ordered the bill reported with an amendment on June 7, 1990, and the report (S. Rept. 101-403) was filed on July 31, 1990. The Senate passed S. 677, as reported, by unanimous consent on September 24, 1990.

H.R. 2317 was introduced by Mr. Young on May 10, 1989, and referred to the Committee on Science, Space, and Technology.

On October 26, 1990, under unanimous consent, S. 677 was passed by the House clearing the measure for the President. S. 677 was signed by the President on November 16, 1990, becoming Public Law 101-609.

1.22—P.L. 101-611, NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AUTHORIZATION ACT OF FY 1991 (S. 2287/H.R. 5649/H.R. 4196)

To authorize appropriations to the National Aeronautics and Space Administration for research and development, space flight, control and data communications, construction of facilities, and research and program management, and for other purposes.

Summary and Background of Legislation

The Committee on Science, Space, and Technology is responsible for authorization of appropriations for the National Aeronautics and Space Administration programs. This jurisdiction is shared by two Subcommittees: Space Science and Applications for space programs; and Transportation, Aviation and Materials for aeronautical research and technology.

The authorization requested by NASA was $15,125,200,000. The bill authorizes $13,892,600,000 for FY 1991 space and aeronautics activities divided as follows: $5,837,600,000 for research and development; $5,293,000,000 for space flight control and data communications; $498,000,000 for construction of facilities; $2,253,000,000 for research and program management; and $11,000,000 for the Inspector General account.

The research and development accounts include the following programs: Space Station; Space Transportation Capability Development; Physics and Astronomy; Life Sciences; Planetary Exploration; Space Applications; Commercial Use of Space; Space Research and Technology; and Tracking and Data Advanced Systems.

Funding for the Research and Development account was allocated in the following manner:

	In millions
(1) Space Station	[1] ($2,451,000)
(2) Space Transportation Capability Development	723,400
(3) Physics and Astronomy	985,000
(4) Life Sciences	168,400
(5) Planetary Exploration	337,200
(6) Earth Sciences	542,500
(7) Space Applications	186,900
(8) Technology utilization	24,400
(9) Commercial Use of Space	76,600
(10) Aeronautical Research and Technology	537,000
(11) Transatmospheric Res. and Technology (NASP)	119,000
(12) Space Research and Technology	412,900
(13) Exploration Mission Studies	21,000
(14) Safety, Reliability, and Quality Assurance	33,000
(15) Tracking and Data Advanced Systems	20,000
(16) Academic Programs	50,100
(17) CRAF/Cassini	1,600,000

[1] Authorization contained in P.L. 100-685.

Funding for the Space Flight, Control, and Data Communications account was allocated in the following manner:

	In millions
(1) Space Shuttle Prod. & Capability Development	$1,364,000
(2) Space Shuttle Operations	2,831,400
(3) Expendable Launch Vehicle Operations	229,200
(4) Space and Ground Network, Com. & Data Systems	868,800

The bill provides for the following policy provisions.

Sec. 107 Amendments to the National Aeronautics and Space Act—The bill amends the NASA act to include language specific to the commercial use of space and use of commercially provided services.

Sec. 108 National Space Council Authorization—The bill authorizes $1.363 million for the Space Council. The bill also contains authority for offical reception and representation expenses.

The bill also contains a provision expressing the sense of Congress that the Space Council should establish guidelines, and policy recommendations regarding ELV launches in which a Federal agency assumes substantial responsibility.

Sec. 109 Geographical Distribution.—The bill includes a provision regarding the geographical distribution of funds.

Sec. 110 Buy American.—The bill contains a provision regarding the award of contracts to domestic firms.

Sec. 111 Advanced Solid Rocket Motor.—The bill contains a provision requiring the submittal of certain reports on the cost, performance and schedule for the ASRM.

Sec. 112 Space Shuttle Use Policy.—The bill includes a section setting forth policy for the use of the Space Shuttle.

Sec. 113 Life Sciences Strategic Plan.—The bill includes a section requiring the development of a strategic plan for developing a knowledge base for life sciences.

Sec. 114 Study on International Cooperation in Planetary Exploration.—The bill includes a section requiring the Space Council to carry out a study on international cooperation in planetary exploration.

Sec. 115 Office of Space Commerce.—The bill authorizes $.487 million for the Department of Commerce Office of Space Commerce. The bill also requires the Secretary of Commerce to report

to the Congress on an annual basis on the activities of the Office of Space Commerce including planned programs and expenditures.

Sec. 116 National Aero-Space Plane Program.—The bill contains a section setting forth policy, funding, and technical goals for the National Aero-Space Plane program.

Sec. 117 Commercial Space Launch Act Amendments.—The bill authorizes $4.517 million for the Department of Transportation's Office of Commercial Space Transportation as provided in both the House and Senate bill. The bill also identifies $.250 million for the provision of launch services for eligible satellites in accordance with section 6 of the Commercial Space Launch Act Amendments of 1988. Finally, the bill contains Congressional Findings, a Congressional Statement of Purpose, and statement of General Responsibilities of the Secretary relative to private sector launch facilities.

Sec. 118 Space Debris.—The bills includes a section outlining the sense of Congress on the goals of U.S. policy on space debris.

Sec. 119 Support for Space Shuttle Orbiter Production Line.—The bill includes a section authorizing use of funds from the Space Shuttle replacement orbiter appropriation for the acquisition for Shuttle structural spares.

Sec. 120 Industrial Applications Centers.—The bill includes a section which provides for the retention of client income without deductions from appropriated funds for Industrial Applications Centers.

Sec. 121 Users' Advisory Group.—The bill includes a section establishing a users advisory group for the Space Council.

Sec. 122 Scientific Balloon Launch Site.—The bill contains a section authorizing the Administrator to purchase land in New Mexico for a balloon launch site.

Sec. 123 Peaceful Uses of Space Station.—The bill contains a section setting forth the policy that the Station may be used only for peaceful purposes.

Sec. 124 Small Business Innovation Research Program.—The bill contains a section authorizing the Administrator to use up to 5% of SBIR funds for program management and promotional activities.

Sec. 125 Propulsion Strategic Assessment.—The bill contains a section requiring a report on the requirements, benefits, technological feasibility, and roles of propulsion systems for the future space program.

Sec. 126 National Civil Remote Sensing Advisory Committee.—The bill contains a requirement for the Director of the Office of Science and Technology Policy to submit a report on the advisability of establishing a National Civil Remote Sensing Advisory Committee.

Title II Launch Services Purchase.—The bill contains the substance of the Launch Service Purchase Act.

Legislative History

The following is a legislative history of the NASA authorization bills which preceded the passage of S. 2287.

During the First Session of the 101st Congress, two multi-year authorization bills containing substantive similar language were passed by the House. The first, H.R. 1759, was introduced by Mr. Roe on April 10, 1989. On September 21, 1989, H.R. 1759 passed the

House (see Chapter II for further discussion). The Senate did not act on this bill.

In an effort to provide an additional vehicle for conference action, Mr. Roe introduced a second bill, H.R. 3729 on November 19, 1989. On November 20, 1989, H.R. 3729 passed the House by voice vote and was forwarded to the Senate. The bill was amended by the Senate and passed on November 21, 1989. H.R. 3729 was received back in the House on November 21, 1989; however, insufficient time remained in the First Session for its consideration.

On February 28, 1990, during the 101st Congress, Second Session, the following Members were named as House conferees on H.R. 3729: Mr. Roe, (D-NJ); Mr. Nelson, (D-FL); Mr. Valentine, (D-NC); Mr. Brown, (D-CA); Ms. Lloyd, (D-TN); Mr. Glickman, (D-KS); Mr. Volkmer, (D-MO); Mr. Mineta, (D-CA); Mr. Torricelli, (D-NJ); Mr. Nagle, (D-IO); Mr. Walker, (R-PA); Mr. Sensenbrenner, (R-WI); Mr. Lewis, (R-FL); Mr. Buechner, (R-MO); Mr. Packard, (R-CA); Mr. Slaughter, (R-VA); and Mr. Rohrabacher, (R-CA). The Senate did not elect to name conferees.

On March 6, 1990, Mr. Roe introduced H.R. 4196, the NASA Authorization Act, 1991, to provide budget authority for FY 1991 in addition to that provided in H.R. 3729. Taken together, H.R. 3729 and H.R. 4196 were intended to fully meet the budgetary requirements for FY 1991. H.R. 4196 also provided budget authority for fiscal years 1992 and 1993 which were considered to be "runout" budgets that do not contain any new starts but simply provide the authority to continue presently authorized programs (for further discussion see H.R. 3729, Chapter II). The Subcommittee on Space Science and Applications considered H.R. 4196 on March 13, 1990, substituted a committee print for the text, and reported the bill as amended to the Full Committee.

Due to the lack of conference action on H.R. 3729, a decision was made to end further consideration of H.R. 3729 and H.R. 4196 and introduce a clean bill combining the provisions of both.

On September 18, 1990, Mr. Roe introduced H.R. 5649, the NASA Multiyear Authorization Act of 1990. On September 19, 1990, the Committee considered the bill and ordered it reported with an amendment. On September 26, 1990, Legislative Report 101-763 was filed in the House. A hearing before the Committee on Rules took place on September 27, 1990, and a one-hour open rule was granted. On September 28, 1990, H.R. 5649 was considered by the House and passed, as amended, by Voice Vote. On October 2, 1990, the Speaker appointed the following Members as Conferees: Mr. Roe, (D-NJ); Mr. Brown, (D-CA); Mr. Nelson, (D-FL); Mr. Hall, (D-TX); Mr. Volkmer, (D-MO); Mr. Mineta, (D-CA); Mr. Torricelli, (D-NJ); Mr. Nagle, (D-IO); Mr. Hayes, (D-LA); Mr. Tanner, (D-TN); Mr. Walker, (R-PA); Mr. Sensenbrenner, (R-WI); Mr. Lewis, (R-FL); Mr. Packard, (R-CA); Mr. Buechner, (R-MO); and Mr. Campbell, (R-CA).

S. 2287 was introduced on March 9, 1990 (legislative day, January 23, 1990) by Senator Gore, Chairman, Subcommittee on Science, Technology, and Space, and referred to the Senate Committee on Commerce, Science, and Transportation. Hearings were held by the Subcommittee on Science, Technology, Senate Committee on

Commerce, Science, and Transportation on March 9, March 28, April 3, May 3, May 10, and May 15.

On June 27, 1990, the Senate authorizing Committee considered S. 2287 and ordered the bill reported with an amendment in the nature of a substitute. On September 11, 1990, Senate Report 101-455 was filed. An informal conference was held in which a compromise between S. 2287 and the House counterpart, H.R. 5649, was developed as an amendment in the nature of a substitute. On October 24, 1990, S. 2287 passed the Senate by Voice Vote as amended. On October 25, 1990, S. 2287 was called up by the House under unanimous consent and passed by Voice Vote.

S. 2287 was signed by the President on November 16, 1990, becoming Public Law 101-611. Committee Publication Numbers 101-32, 101-129 Vol. 2, and 101-120.

1.23—P.L. 101-614, NATIONAL EARTHQUAKE HAZARDS REDUCTION PROGRAM REAUTHORIZATION ACT (S. 2789, H.R. 3533, S. 1062, H.R. 4362)

To authorize appropriations for the Earthquake Hazards Reduction Act of 1977, and for other purposes. Specifically, the bill amends the Earthquake Hazards Reduction Act of 1977 to provide more detailed direction to the National Earthquake Hazards Reduction Program (NEHRP) and to reauthorize the program through FY 1993.

Summary and Background of Legislation

An earthquake in Soviet Armenia on December 7, 1988, resulted in the loss of about 25,000 lives, graphically demonstrating the dangers posed by poorly constructed buildings. The Loma Prieta, California earthquake of October 17, 1989 was approximately twice the magnitude as the Armenian earthquake and lasted about the same length of time. Loss of life and of property resulting from the Loma Prieta earthquake were considerably less than that suffered in Armenia. Construction technology and enforced building codes made the difference. Even so, the total estimated cost of earthquake-related damage in the California Bay Area approached $10 billion, making the quake the most expensive natural disaster in the history of the U.S. A stronger earthquake than Loma Prieta—and one whose epicenter is closer to an urban area—is almost certain to strike California within the next 30 years, according to geological studies.

Devastation from an earthquake east of the Rocky Mountains would be even more severe. In contrast to California, a significant earthquake has not jolted the East for many years, and the earthquake threat is largely ignored. However, experts believe that a major earthquake, at least as destructive as the Loma Pireta earthquake, is inevitable within the next century somewhere east of the Rocky Mountains. The most likely locations are the Charleston, South Carolina and Memphis, Tennessee areas.

All told, all or part of 39 states may suffer moderate to severe shaking from earthquakes. Within these states, more than 200 million people are exposed to the earthquake hazards of ground shaking, surface faulting, ground failure or tsunamis.

Recognizing the national threat posed by earthquakes, Congress passed the Earthquake Hazards Reduction Act of 1977 to establish a focused federal effort to limit death and destruction from earthquakes. The act established the NEHRP, administered principally by the Federal Emergency Management Agency (FEMA), United States Geological Survey (USGS), National Science Foundation (NSF), and the National Institute of Standards and Technology (NIST). FEMA is responsible for helping states prepare for, and respond to major earthquakes. USGS, as the nation's principal geological agency, assesses seismic risks throughout the country, assists state and local officials in identifying the dangerous areas, and monitors and investigates earthquakes. NSF, as a part of its mission to support basic scientific and engineering research in universities, supports academic investigators in geology, earthquake engineering and human behavior in earthquakes. NIST's Center for Building Technology, as part of its research on construction materials and methods, investigates ways to engineer structures and lifelines to withstand earthquakes. In 1980, Congress amended the Earthquake Hazards Reduction Act of 1977 to designate FEMA the lead agency for NEHRP (P.L. 96-472).

In addition to the four principal agencies, several other agencies, including the Departments of Defense, Commerce, and Energy, the National Aeronautics and Space Administration, and the Nuclear Regulatory Commission, participate in NEHRP activities, especially those regarding seismic safety in construction.

Since passage of the Earthquake Hazards Reduction Act of 1977, research has increased scientific understanding of earthquake origins, ground motion, ground failure and the effects of these phenomena on structures and lifelines. This research already has been of great value to the Nation. For example, findings have been already applied almost immediately to upgrade critical facilities such as nuclear power plants, liquefied natural gas facilities, and major gas and oil pipelines. Building codes have been strengthened, particularly within California. Several areas along major active faults have been identified as being especially vulnerable to major earthquakes in the future. However, from 1978 to 1989, NEHRP funding dropped steadily in real terms, bottoming out at a level about 30 percent below the FY 1980 funding in constant dollars. As a result, the USGS has limited its comprehensive monitoring of the San Andreas fault to a single segment.

A panel of earthquake experts convened by FEMA issued a report entitled, "The National Earthquake Hazards Reduction Program: Commentary and Recommendations of the Expert Review Committee 1987", which recommended an annual budget of $200 million for the NEHRP. The Expert Review Committee, chaired by George Bernstein, former Federal Insurance Administrator, warned that without higher levels of funding, the program could soon lose many of its most qualified researchers. The Committee argued that its budget recommendation represented only three-tenths of one percent of the $60 billion in damages estimated to result from a single major U.S. earthquake, such as the 1906 San Francisco earthquake.

After the October 17, 1989 earthquake in Loma Prieta, California, Congress appropriated an additional $20 million for the

NEHRP in FY 1990 Dire Emergency Supplemental To Meet The Needs of Natural Disasters of National Significance (P.L. 101-130) which provided disaster relief for both the victims of the earthquake and Hurricane Hugo. This one-time increase did not, however, increase the base budget for the NEHRP.

Public Law 101-614 authorizes $102.7 million in FY 1993, $120.2 million in FY 1992 and $141.2 million in FY 1993. The Act contained authorization levels for the NSF portion of NEHRP by directorates. The Act also contains cost-sharing requirements for grants to states, and allows FEMA to continue requiring a 50 percent match in-cash, but prohibits FEMA from requiring the states to contribute more.

Public Law 101-614 provides cost-sharing requirements for states not yet a participating in the grant program. The Act provides for a grant to states without a match in the first Fiscal Year, not more than a 25 percent in-kind match the second year a state participated, and not more than a 35 percent in-kind match the third year. In the fourth year, and for subsequent years, a state could be required to match 50 percent in-cash. The Act contained special matching requirements for grants funded with funds appropriated under Public Law 101-130. FEMA could not require a state to provide any more than a 25 percent in-kind match. The Act assigns lead responsibility for the post-earthquake investigations program to the USGS and also lists specific responsibilities of the program agencies in conducting post-earthquake investigations.

Legislative History

The Subcommittee on Science, Research and Technology held the following hearings on issues that are related to H.R. 3533: "Earthquake Threat in the Central U.S.: Are We Prepared?" on November 17, 1989; "The Loma Prieta Earthquake: Lessons Learned," on December 4, 1989, a field hearing held in San Francisco; and "The Adequacy of the Earthquake Hazards Reduction Act in Mitigating the Effects of Future U.S. Earthquakes," on March 1, 1990. Representatives from the four principal federal agencies involved in the NEHRP, and representatives from academia and state and local governments presented their views on ways to strenghten the NEHRP and address the threat posed by existing buildings and lifelines that are not built to withstand earthquakes.

H.R. 3533, Earthquake Hazards Reduction Act of 1977 Amendments Act, was introduced by Congressman Emerson on October 26, 1989 and was jointly referred to the Committee on Science, Space, and Technology and the Committee on Interior and Insular Affairs. As introduced, H.R. 3533 was virtually identical to S. 1062, Earthquake Hazards Reduction Act of 1977 Amendments Act, which was passed by the Senate on October 25, 1989. S. 1062 was jointly referred to the Committee on Science, Space, and Technology and the Committee on Interior and Insular Affairs of October 30, 1989.

H.R. 4362, the Authorization for Certain Programs under the Earthquake Hazards Reduction Act, was introduced by Congressman Fazio on March 22, 1990 and was jointly referred to the Committee on Science, Space, and Technology and the Committee on

Interior and Insular Affairs. H.R. 4362 authorizes appropriations for the NEHRP for FY 1991-1994.

On June 6, 1990, the Subcommittee on Science, Research and Technology met to consider H.R. 3533. The Subcommittee made in order an amendment in the nature of a substitute to H.R. 3533 as the Subcommittee mark-up vehicle. The substitute: rewrote the Earthquake Hazards Reduction Act of 1977 (P.L. 95-124); and incorporates portions of H.R. 4362; set cost-sharing requirements for states for grants provided by FEMA under the NEHRP; and reauthorized the earthquake program for FY 1991, 1992 and 1993. The substitute also required that the NEHRP stress: efforts to change building standards and practices; engineering research on how to retrofit buildings and how to protect lifelines (utilities, roads and other man-made facilities other than buildings); and geological research that identifies the risks faced by specific communities.

The cost-sharing provisions of the substitute apply to grants FEMA makes to states to help them operate disaster preparedness, hazard mitigation and earthquake education and awareness programs. The substitute allowed FEMA to continue requiring states to provide 50 percent of the cost of any project covered by a grant, but prohibits FEMA from requiring the states to contribute more than 50 percent of the project cost.

The substitute also phases in cost-sharing requirements for states that have not yet received grants from FEMA. The cost-sharing requirements may not be more than a 25 percent in-kind match the first year a state participates and a 50 percent in-kind match the second year. Starting the third year, a state could be required to pay the full 50/50 cash match. The substitute establishes special matching requirements for grants funded by Public Law 101-130. FEMA could not require any state to provide more than a 25 percent in-kind match for those funds.

The substitute also sets a spending floor for the NSF portion of the NEHRP. The language requires NSF to obligate to the NEHRP a set portion of the funds already authorized in the National Science Foundation Authorization Act (P.L. 100-570), which provides overall authorizations for NSF through FY 1993.

The authorization levels in the substitute are: in FY 1991—FEMA—$15.0 million; NSF Engineering—$24.0 million and Geosciences—$13.0 million; USGS—$50.0 million; NIST—$0.75 million; for a total of $102.75 million. In FY 1992—FEMA—$18.0 million; NSF-Engineering $31.0 million and Geosciences $15.2 million; USGS—$55.0 million; NIST—$1.0 million; for a total of $120.25 million. In FY 1993—FEMA—$22.0 million; NSF Engineering—$36.0 million and Geosciences—$18.0 million; USGS—$64.0 million; NIST—$1.25 million; for a total of $141.25 million. A quorum being present, the Subcommittee, by voice vote, ordered H.R. 3533, as amended, to be forwarded to the Committee on Science, Space, and Technology.

On June 13, 1990, the Committee on Science, Space, and Technology met to consider H.R. 3533. The bill as reported by the Subcommittee served as the mark-up vehicle. Four amendments were considered by the Committee. Mr. Walker offered an amendment to remove the spending floors for the NSF. The amendment was rejected by voice vote. Mr. Walker also offered an amendment to

ensure that the funds authorized for NIST for the NEHRP in H.R. 3533 did not add to the total amount authorized for NIST in other legislation. Mr. Walker withdrew the amendment after reaching an agreement with Chairman Roe to reduce funding for NIST in the American Technology Preeminence Act of 1990 (H.R. 4329). Mr. Walker offered an amendment to set precise cost-sharing requirements for FEMA grants to states rather than capping the amount FEMA could require. The amendment was rejected by a division vote of six to eight. Mr. Traficant offered an amendment permitting the Administrator of FEMA to give preference to domestic firms in awarding contracts. The amendment was adopted by voice vote. On June 13, 1990, by voice vote, H.R. 3533 was ordered reported favorably by the Committee on Science, Space, and Technology. H.R. 3533, as ordered reported, is indentical to the bill as reported by the Subcommittee on Science, Research and Technology except for the addition of the Traficant amendment. The legislative report, H. Rept. 101-464, Part 2 was filed on July 19, 1990.

On April 4, 1990, the Committee on Interior and Insular Affairs ordered reported H.R. 3533. The legislative report, H. Rept. 101-464, Part 1 was filed on April 26, 1990. The authorization levels in the Interior Committee's bill include: For FY 1991—FEMA—$22 million; USGS—$50 million; NSF—$37 million; and NIST—$1 million; for a total of $110 million. For FY 1992—FEMA—$26 million; USGS—$62.5 million; NSF—$46.2 million; and NIST—$1.2 million; for a total of $136 million. For FY 1993—FEMA—$30 million; USGS—$80 million; NSF—$59 million; and NIST—$1.5 million; for a total of $170 million. For FY 1994—FEMA—$35 million; USGS—$100 million; NSF—$73.7 million; and NIST—$2 million; for a total of $210 million.

On September 24, 1990, the House suspended the rules, and passed an agreement reached between the Interior and Insular Affairs Committee and the Committee on Science, Space, and Technology. The bill, as amended, was passed by a roll call vote of 283 yeas 132 nays. H.R. 3533 as passed contained most of the text of the bill as reported by the Committee on Science, Space, and Technology. The authorization levels in the bill were: $105.0 million for FY 1991; $125.5 million for FY 1992; $147.5 million for FY 1993; and $166.7 million in FY 1994. The bill set spending floors for the engineering and geosciences programs within the NSF for FY 1991-1993. The bill contained cost-sharing requirements for grants to states. Currently, states must match the federal funds in cash. The bill would allow FEMA to continue requiring a 50/50 match in cash, but would prohibit FEMA from requiring the states to contribute more. The bill also phased in cost-sharing requirements for states not yet participating in the grant program. The bill required a grant to states without a match in the first Fiscal Year, not more than a 25 percent in-kind match the second year a state participated, and not more than a 35 percent in-kind match the third year. In the fourth year a state could be required to match 50/50 in-cash. The bill contained special matching requirements for grants funded with money from Public Law 101-130. FEMA could not require a state to provide any more than a 25 percent in-kind match. The bill assigned lead responsibility for the post-earthquake investigations program to the USGS. The bill allowed FEMA to give preference to

domestic firms in contracting under certain circumstances with specified approval.

On June 26, 1990, S. 2789, National Earthquake Hazards Reduction Program Reauthorization Act, was introduced by Senator Gore. S. 2789 builds upon four bills: S. 1062, H.R. 3533, H.R. 4362 and S. 629, Earthquake Hazards Reduction Act of 1977 Amendments Act. S. 2789 was ordered reported by the Committee on Commerce, Science, and Transportation on June 27, 1990 (S. Rept. 101-446).

On October 19, 1990, the Senate passed S. 2789, as amended, by unanimous consent which contained an agreement reached between the House Committee on Science, Space, and Technology and Committee on Interior and Insular Affairs, and the Senate Committee on Commerce, Science, and Transportation. On October 20, 1990, the House agreed to the compromise passed by the Senate, by unanimous consent, clearing the measure for the President. S. 2789 was signed by the President on November 16, 1990, becoming Public Law 101-614.

Committee Publication Numbers 101-79, 101-101, 101-99, H. Rept. 101-464, Part 2.

1.24—P.L. 101-617, THE ENVIRONMENTAL RESEARCH GEOGRAPHIC LOCATION INFORMATION ACT (S. 3069)

To provide a method of locating private and Government research on environmental issues by geographic location.

Background and Summary of Legislation

Hundreds of millions of dollars of studies to assess the quality of our environment are conducted in this country every year, but the results are often inaccessible to the public because of the difficulty of determining the location in which the research was conducted. Databases which contain journal articles, reports, and other scientific environmental information do not always include reference to location, unless it happens to appear in the title. Access to geographically-identified environmental information could benefit most everyone, including industry in its site selection process for new facilities, potential residents of an area, and scientists interested in tracking the environmental quality of a particular area.

The Environmental Research Geographic Location Information Act requires the Environmental Protection Agency to review at least 35 scientific journals each year and to publish an annual index of the articles in those journals by geographic location. Distribution to the public will occur through the National Technical Information Service. The Act also directs NTIS to submit to Congress an annual bibliography of publications by geographic location. The Congressional Budget Office has estimated that the Act will cost no more than $65,000 a year, with a 10 year limit on funding.

Legislative History

S. 3069 was introduced on September 18, 1990 by Senator James Jeffords; a companion bill, H.R. 5681, was introduced in the House on September 19, 1990. S. 3069 passed the Senate on October 26,

1990 without amendment, was discharged by the Committee on Science, Space, and Technology and passed the House on October 27, 1990, and was signed by the President on November 16, 1990, becoming Public Law 101-617.

1.25—P.L. 101-624, THE FOOD AND AGRICULTURE RESOURCES ACT OF 1990 (S. 2830)

A bill to extend and revise agricultural price support and related programs, and to provide for agricultural export, resource conservation, farm credit, agricultural research, and for other purposes.

Background and Summary of Legislation

S. 2830, the Food and Agriculture Resources Act (Sections 1921-1930, 1940, and 1944-1946), establishes a Global Climate Change Research Program within the Department of Agriculture, coordinated with the White House Office of Science and Technology Policy (Committee on Earth and Environmental Sciences).

S. 2830 requires the Secretary of Agriculture to prepare and submit to the Agriculture Committees and the Science Committee, within 180 days of enactment, a plan for global climate research activities, listing areas of priority. The bill also requires the Secretary of Agriculture to prepare and submit to the Agriculture Committees and the Science Committee, within the 5 years of enactment, the results of the research assessing the effects of global climate change on agriculture and forestry; identifying any current agricultural or forestry practices that may contribute to global climate change; identifying any effects of agriculture and forestry that may mitigate the negative effects of global climate change; and exploring technologies including plant breeding, genetic engineering, and maintenance of biodiversity that could assist agriculture and forestry in adapting to global climate change.

S. 2830 directs the Secretary of Agriculture to report annually to the Agriculture Committees and Science Committee on the status of global climate change research activities with recommendations for Congressional action to mitigate the negative effects of global climate change; to assess the emissions of greenhouse gasses from forest and agricultural processes and determine potential means of reducing such emissions. The bill also authorizes the Secretary of Agriculture establish an Institute of Tropical Forestry in Puerto Rico and an Institute of Pacific Islands Forestry.

Legislative History

On November 20, 1989, the Senate passed S. 1610, the Domestic Research on Global Warming, Forests, and Agriculture Act of 1989, the International Forestry Cooperation Act of 1989, and the Global Climate Change Prevention Act of 1989. S. 1610 was jointly referred to the Committee on Science, Space, and Technology and the Committee on Agriculture on November 21, 1989. S. 1610 was later included in sections 1921-1946 of S. 2830, the Food and Agriculture Resources Act of 1990.

S. 2830, the Food and Agriculture Resources Act, was passed by the Senate on July 7, 1990. The House of Representatives passed S. 2830 on August 4, 1990. The Speaker of the House appointed con-

ferees from the Committee on Science, Space, and Technology on October 2, 1990.

The Conference accepted the House counter-proposal for sections 1921–1930, 1940, and 1944–1946, and the Conference Report was agreed to by the House of Representatives on October 23, 1990.

The Senate approved the Conference Report on S. 2830, clearing the bill for the White House, on October 25, 1990. The President signed the bill on November 28, 1990 and it became Public Law 101–624.

1.26—P.L. 101–640, WATER RESOURCES DEVELOPMENT ACT OF 1990 (S. 2740)

A bill to provide for the conservation and development of water and related resources, to authorize the United States Army Corps of Engineers civil works program to construct various projects for improvements to the Nation's infrastructure, and for other purposes.

Background and Summary of Legislation

Increasing population pressure has renewed the national emphasis on finding new means to maintain clean water resources. The advance of research at our scientific frontiers points to the use of wetland habitat as one way to maintain good water resources and purify waters through the removal of pollutants. Protection of our Nation's wetlands is one of the major environmental challenges of the next decade and loss of this habitat, particularly in coastal environments pressed to develop water resources to meet growing population needs, is a cause for alarm. Under its environmental research and development jurisdiction the Committee on Science, Space, and Technology supported efforts to increase our knowledge and understanding of critical wetland functions by recommending passage of the wetlands provisions in the Water Resources Development Act.

The wetland provisions in Section 307 of the Water Resources Development Act establish, as part of the Corps of Engineers water resources development program, the goal of no overall net loss of the Nation's remaining wetlands. The Act directs the Secretary of the Army (in consultation with the Environmental Protection Agency, the Fish and Wildlife Service, and other appropriate Federal agencies) to carry out a wetlands pilot project to evaluate and demonstrate the use of constructed wetlands for wastewater treatment.

The wetland provisions of the Water Resources and Development Act also take an important step toward improving our scientific understanding of wetland restoration and creation, invaluable tools that will assist us in meeting the goal of no net loss of wetlands. This is done by directing the Secretary of the Army to establish, in conjunction with the EPA Administrator, a wetlands restoration and enhancement demonstration program.

Section 309 authorizes the Corps to conduct research and development activities on magnetic levitation (mag-lev) technology. The authorization is necessary to permit the Corps to participate in the initiative proposed by the Administration to begin a U.S. mag-lev

research and development program aimed at reestablishing the U.S. as the world's leader in this technology. The Act authorizes $1 million for fiscal year 1990 and $4 million for fiscal year 1991.

Legislative History

H.R. 5314, the Water Resources Development Act of 1990 was introduced on July 19, 1990. The bill was jointly referred to the Committee on Public Works and Transportation and the Committee on Ways and Means and was reported to the House by the House Committee on Public Works and Transportation on August 14, 1990 (Report No. 101-705).

The bill was called up by the House and passed on September 26, 1990, and was then passed as S. 2740, the Senate's companion legislation. On October 21, 1990, Members of the Committee on Science, Space, and Technology were appointed conferees for consideration of section 309 of the Senate bill, and section 13 of the House amendment, and modifications committed to conference. The conference report to accompany S. 2740 was passed October 27, 1990 (Conference Report No. 101-966). The bill was signed into law (Public Law 101-640) by the President on November 29, 1990.

1.27—THE TWENTIETH ANNIVERSARY OF MANKIND'S FIRST LUNAR LANDING (H. RES. 197)

To commemorate the twentieth anniversary of mankind's first lunar landing.

Summary and Background of Legislation

Resolves that the House of Representatives commemorates the 20th anniversary of man's first lunar landing, and pays homage to the many dedicated individuals who made the mission possible.

Legislative History

On July 12, 1989, Mr. Roe (along with 31 cosponsors) introduced H. Res. 197, a resolution to commemorate the Twentieth Anniversary of Mankind's first lunar landing, which was referred jointly to the Committees on Post Office and Civil Service, and Science, Space, and Technology.

At the request of Chairman Roe, the Committees were discharged from further consideration of the resolution.

H. Res. 197 passed the House on July 19, 1989, by voice vote.

CHAPTER II—OTHER LEGISLATIVE ACTIVITIES OF THE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

2.1—THE MULTIYEAR NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AUTHORIZATION ACT OF 1989 (H.R. 1759/H.R. 3729)

To authorize appropriations to the National Aeronautics and Space Administration for research and development, space flight, control and data, communications, construction of facilities, and research and program management, and for other purposes.

Summary and Background of Legislation

The Committee on Science, Space, and Technology is responsible for authorization of appropriations for the National Aeronautics and Space Administration programs. This jurisdiction is shared by two Subcommittees: Space Science and Applications for space programs; and Transportation, Aviation and Materials for aeronautical research and technology.

Space

H.R. 1759 authorizes $12,793,800,000 for space and aeronautics activities divided as follows: $5,407,200,000 for research and development; $5,013,800,000 for space flight control and data communications; $331,800,000 for construction of facilities; and $2,032,200,000 for research and development.

The research and development account for space includes the following programs: Space Station; Space Transportation Capability Development; Physics and Astronomy; Life Sciences; Planetary Exploration; Space Applications; Technology Utilization; Commercial Use of Space, Space Research and Technology; and Tracking and Data Advanced Systems.

The authorization requested by NASA was $13,274,000,000.

Funding for the Research and Development account was allocated in the following manner:

	In Millions
(1) Space Station	*($2,130,200)
(2) Space Transportation Capability Development	651,500
(3) Physics and Astronomy	914,500
(4) Life Sciences	124,200
(5) Planetary Exploration	361,900
(6) Space Applications	646,000
(7) Technology Utilization	22,700
(8) Commercial Use of Space	40,300
(9) Space Research and Technology	358,100
(10) Space Exploration	20,000
(11) Safety, Reliability, and Quality Assurance	23,300
(12) Tracking and Data Advanced Systems	19,900

*Authorization provided in P.L. 100-685.

Funding for the Space Flight, Control, and Data Communications account was allocated in the following manner:

	In Millions
(1) Space Shuttle Prod. & Capability Development	$1,264,500
(2) Space Transportation Operations	2,500,700
(3) Expendable Launch Vehicle Operations	171,500
(4) Space & Ground Network, Com. & Data Systems	1,077,100

The Construction of Facilities account was authorized at $331,800. The Research and Program management account was authorized at $2,032,200.

H.R. 1759 provides a total of $12,793,800,000 for FY 1990, $92,271,000,000 for FY 1991 and $13,282,950,000 for FY 1992. In addition to these amounts, P.L. 100-685 enacted into law in 1988, provides $2,130,200,000 in FY 1990 and $2,912,500,000 in FY 1991 for the Space Station. Major program initiatives contained in the legislation include an authorization of $3,949,400,000 for the Space Station Freedom program for FY 1992; restoration of funding for the Advanced Communications Technology Satellite (ACTS), enabling completion of this program which is presently more than 75 percent complete; funding to continue toward the start of Shuttle-C, a heavy lift vehicle; full program authorization for the CRAF-Cassini new start in the amount of $1,600,000,000; support of the President's request for a substantial life sciences funding increase in order to develop an understanding of effects of long-term space travel on man; full funding for the National Aerospace Plane while stipulating that the entire amount must be made available before expenditures may be made for other aeronautics programs; and establishment of a new program to carry out research on cost-effective technologies for commercial expendable launch vehicles.

The Bill also contains a number of special policy provisions.

Section 8 authorizes up to $50,000,000 in appropriations previously made for the replacement orbiter for Shuttle structural spares.

Section 9 provides special authority and guidelines for private financing agreements for the Space Station Neutral Buoyancy Facility and the Payload Processing Facility.

Section 10 provides that the NASA Administrator shall distribute research and development funds geographically to provide the broadest participation in NASA programs.

Section 11 requires the NASA Administrator to buy American goods and services.

Section 12 amends the National Aeronautics and Space Act of 1958 by providing authority to procure launch goods and services on a commercially reasonable basis.

Section 13 authorizes $4,392,000 for the Department of Transportation's Office of Commercial Space Transportation.

Section 14 amends Section 501 of the NASA Authorization Act of FY 1989 to provide for the administrative needs of the National Space Council.

Section 15 endorses the International Space Year in 1992 and mandates that the President declare a World Space Congress to focus on cooperative space efforts.

Section 16 provides contingent liability authority for the Advanced Solid Rocket Motor Facility to enable the contractor to secure private financing.

Section 17 addresses the Space Shuttle Use Policy and requires that the Administrator provide a certification to Congress for payloads that do not require man.

Section 18 mandates that the U.S. Trade Representative must engage in negotiations to ensure fair pricing practices by other nations offering commercial launch services. If such agreements cannot be reached, the bill prohibits the export of U.S. satellites for launch on vehicles manufactured by the Soviet Union in most circumstances.

Section 19 suspends a specific export license previously granted for the launch of a U.S. satellite aboard the Chinese Long March unless human rights progress is made.

Section 20 supports the President's request for a substantial life sciences funding increase in order to develop an understanding of effects of long-term space travel on man.

Section 21 establishes a Commission for International Cooperation on Planetary Exploration to study options for cooperative international space exploration, initiatives such as a mission to Mars.

Section 22 establishes the Office of Space Commerce as the principal unit for coordinating space issues within the Department of Commerce.

Aeronautical and Transatmospheric Research and Technology

H.R. 1759 authorizes $589.8 million for fiscal year 1990 for Aeronautical Research and Technology and Transatmospheric Research and Technology. The amount is identical to the amounts in the President's request for these programs. The authorization also provides that none of these funds may be expended until $127 million is made available for the National Aero-Space Plane program, either as a result of action by the Appropriations Committee or by reprogramming by NASA from any other accounts.

H.R. 1759 also authorizes the appropriation of $621 million for fiscal year 1991 and $603 million for fiscal year 1992. These amounts are identical to the levels in the Administration's baseline estimate.

The purpose of the Aeronautics Research and Technology Program is to address the critical issues associated with the U.S. air transportation system, to enhance American competitiveness in the international marketplace, and preserve the country's preeminence in aviation for national security. Technologies are being pursued which, when fully implemented, could offer major advances in vehicle performance and capabilities and which could provide substantial positive impact on U.S. competitiveness. Research efforts have been expanded in high payoff areas associated with a broad range of future vehicle applications including high-performance aircraft, and high-speed transport aircraft. The demands for NASA's unique wind tunnels are continuing to increase with the emergence of new civil and military aircraft programs. In order to ensure wind tunnel availability to meet these demands, a major five-year revitalization program was initiated to modernize NASA's major wind tunnels for productive use well into the next century. This revitalization program is entering its second year in FY 1990.

The Transatmospheric Research and Technology Program is NASA's part of the joint NASA/Department of Defense (DOD) National Aero-Space Plane (NASP) program to build and flight test an experimental aircraft capable of single-state-to-orbit operation and extended hypersonic cruise in the atmosphere.

Legislative History

Prior to introduction of the authorization legislation, the Subcommittee on Space Science and Applications met on February 23, 1989 to conduct a posture hearing at which the Administrator of NASA testified in support of the proposed NASA budget. Additional hearings were held by the Subcommittee on March 1, 7, 9, 21, 23; April 13, 18, 1989. The Subcommittee on Transportation Aviation and Materials held hearings on April 26, 1989 and jointly with the Subcommittee on Research and Development of the Committee on Armed Services on August 2, 1989.

On April 10, 1989, the National Aeronautics and Space Administration Multiyear Authorization Bill for 1989 was introduced by Congressman Roe (by request of the Administration, Executive Communication 101-833), and referred to the Committee on Science, Space, and Technology. On April 13, 1989, it was referred jointly to the Subcommittee on Space Science and Applications and the Subcommittee on Transportation Aviation and Materials. On July 18, 1989, the Subcommittee on Space Science and Applications considered the measure and ordered the bill forwarded to the Committee with an amendment in the nature of a substitute, amended. On July 27, 1989, the Subcommittee on Transportation, Aviation and Materials marked up the Aeronautical section of the bill and ordered the bill forwarded to the Committee with an amendment in the nature of a substitute.

The Committee marked up H.R. 1759 on August 3, 1989, and ordered the bill reported with an amendment in the nature of a substitute. On August 31, 1989, the legislative report was filed in the House (H. Rept. 101-226).

H.R. 1759 passed the House on September 21, 1989 by the vote of 398 ayes to 14 nays. The House agreed to an en bloc amendment to delete provisions from the bill pertaining to an exemption from compliance with procedures required for upgrading historic landmark facilities; limiting the rate of pay for the Director of the International Cooperation in Planetary Exploration Commission; and an amendment that requires random drug testing of officers and employees of NASA.

On September 25, 1989, H.R. 1759 was referred to the Senate Committee on Commerce, Science, and Transportation. The Senate Committee on Commerce, Science, and Transportation did not act on H.R. 1759 but reported out S. 916, the National Aeronautics and Space Administration Authorization Act, Fiscal Year 1990.

On November 19, 1989, the House Committee on Science, Space, and Technology introduced H.R. 3729 which contained the substance of H.R. 1759.

On November 20, 1989, H.R. 3729 passed the House by voice vote and was forwarded to the Senate. The bill was amended by the Senate and passed on November 21, 1989. H.R. 3729 was received back in the House on November 21, 1989.

On February 28, 1990, the following Members were named as House conferees on H.R. 3729: Mr. Roe, (D-NJ); Mr. Nelson, (D-FL); Mr. Valentine, (D-NC); Mr. Brown, (D-CA); Ms. Lloyd, (D-TN); Mr. Glickman, (D-KS); Mr. Volkmer, (D-MO); Mr. Mineta, (D-CA); Mr. Torricelli, (D-NJ); Mr. Nagle, (D-IO); Mr. Walker, (R-PA); Mr. Sensenbrenner, (R-WI); Mr. Lewis, (R-FL); Mr. Buechner, (R-MO); Mr. Packard, (R-CA); Mr. Slaughter, (R-VA); and Mr. Rohrabacher, (R-CA).

No further action was taken on H.R. 3729. See Public Law 101-611 (Chapter I of this report). Committee Publication Numbers 101-17. 101-32, H. Rept. 101-226.

2.2—SPACE TRANSPORTATION SERVICES PURCHASE ACT OF 1989 (H.R. 2674)

To encourage the development and full capacity of a competitive United States space transportation industry by requiring the Federal Government to contract for commercially provided space transportation services with certain exceptions.

Background and Summary of Legislation

H.R. 2674 encourages the development and full capability of a competitive United States space transportation industry by requiring the Federal Government to contract for commercially provided space transportation services with certain exceptions.

Section 3 of the bill sets up detailed definitions that are free-standing and similar, but not compatible with, the Commercial Space Launch Act.

Section 4 requires the Federal Government to purchase space transportation services from commercial providers "whenever required."

Section 5 states that contracts must be awarded under full, fair, open competition from U.S. companies unless this would be reasonably disadvantageous to the Federal Government. It also prohibits the use of military or NASA specifications.

Section 6 prohibits the Space Shuttle from carrying commercial payloads except those which the Secretary of Transportation determines require the unique capabilities of the Shuttle.

Legislative History

On June 15, 1989, H.R. 2674 was introduced by Congressman Packard (R-CA), (and 29 other cosponsors) and referred to the Committee on Science Space, and Technology. H.R. 2674 was referred to the Subcommittee on Space, Science and Applications on June 22, 1989.

A Subcommittee hearing was held on November 9, 1989, at which time witnesses from NASA, DOD, DOT, and the private sector provided views on the proposed legislation.

A modified version of H.R. 2674 was incorporated into H.R. 5649 which passed the House of September 28, 1990. Conference action with the Senate resulted in approval of S. 2287 which incorporated the provisions of H.R. 5649 and which passed the House on October 25, 1990 becoming Public Law 101-611. Committee Publication Number 101-98.

2.3—TO AMEND TITLE 35, UNITED STATES CODE, WITH RESPECT TO THE USE OF INVENTIONS IN OUTER SPACE (H.R. 2946)

To amend title 35, United States Code, with respect to the use of inventions in outer space.

Background and Summary of Legislation

Presently, the United States has no set policy regarding the patent of inventions in outer space.

As modified, H.R. 2946 would establish that any invention made, used or sold on a space object in outer space shall be considered to have been made, used, or sold within the United States in two circumstances. The first circumstance hinges upon U.S. jurisdiction or control. The second circumstance depends upon whether the space object is registered by a foreign state in accordance with the Convention on Registration of Objects Launched into Outer Space.

The Committee approved two bills (H.R. 4316 in the 99th Congress and H.R. 1510 in the 100th Congress) containing language similar to that of H.R. 2946 in past sessions of Congress. The bill currently under consideration differs in only one respect from those bills. Based on considerations expressed by the European Space Agency (ESA), the current bill specifies that inventions registered by a foreing state in accordance with the Convention on Registration of Objects Laucnhes into Outer Space are not within the control or jurisdiction of the United States.

The Senate did not act on this issue in either the 99th or 100th Congress. However, in 1989 the Senate Subcommittee on Patents, Copyrights, and Trademarks of the Senate Judiciary Committee approved its own bill (S. 459) on this subject.

The Senate bill is substantially the same as H.R. 2946.

Legislative History

On July 20, 1989, H.R. 2946 was introduced by Mr. Kastenmeier and referred jointly to the Committees on the Judiciary and Science, Space, and Technology. The measure was referred to the Subcommittee on Space Science and Applications on July 25, 1989.

On September 21, 1989, the Subcommittee held a hearing followed by a markup session and the bill was forwarded to the Committee without amendments.

H.R. 2946 was superseded by S. 459, which reflects the essential language and intent of previous legislation. [S. 459 passed the House on October 26, 1990.]

Hearing on the Patents in Space Act, H.R. 2946

Background

Presently, the United States has no set policy regarding the patent of inventions in outer space. On September 21, 1989, the Subcommittee held a hearing to address H.R. 2946, a bill which would establish that any invention made, used, or sold on a space object in outer space shall be considered to have been made, used, or sold within the United States in two circumstances. The first circumstance hinges upon U.S. jurisdiction of control. The second depends upon whether the space object is registered by a foreign

state in accordance with the Convention on Registration of Objects Launched into Outer Space. The principal witnesses were: Mr. Robert Kempf, Associate General Counsel, Intellectual Property, NASA; Mr. James Denny, Acting Assistant Commissioner for Patents, U.S. Patent and Trademark Office; Ms. Susan Biniaz, Legal Advisor, U.S. Department of State.

Summary of the hearing

The witnesses were in unanimous support of H.R. 2946. The Subcommittee has approved two bills containing language similar to H.R. 2946 in past sessions of Congress. The bill currently under consideration differs in only one respect from those bills. Based on considerations expressed by the European Space Agency, the current bill specifies that inventions registered by a foreign state in accordance with the Convention on Registration of Objects Launched Into Outer Space are not within the control or jurisdiction of the United Staes. The Senate did not act on this issue in either the 99th or 100th Congress. However, this year the Senate Subcommittee on Patents, Copyrights, and Trademarks of the Senate Judiciary Committee approved its own bill (S. 459) on this subject. The Senate bill is substantially the same as H.R. 2946.

Immediately after this hearing, the Subcommittee marked up H.R. 2946 and forwarded it to the Full Committee for consideration. Committee Publication Number 101-65.

2.4—THE NATIONAL GROUND WATER RESEARCH ACT (H.R. 2734)

To inaugurate a comprehensive program of environmental research, development, and demonstration relating to contamination and depletion of ground water and ground water resources; and to establish an Interagency Ground Water Research Committee to improve coordination among Federal agencies and provide assistance for implementation of State management programs.

Background and Summary of Legislation

Ground water provides drinking water for more than 50 percent of the total U.S. population, and for 97 percent of its population in rural areas. The supply of ground water underlying the continental United States is immense and has been estimated to be 50 times the volume of the nation's surface water. Agricultural irrigation is the major use of ground water, accounting for nearly 80 percent of all water withdrawn. Ground water also supplies about 25 percent of the water used by industry. The demand for ground water is growing, with the amount withdrawn nearly tripling over the last 30 years to almost 88 billion gallons per day in 1980.

Athough most ground water supplies remain uncontaminated, an increasing rate of well closures in the U.S. are occuring due to contamination, as a result of human activities such as the land application of pesticides and land disposal of hazardous wastes. Environmental scientists and policymakers are becoming increasingly concerned that groundwater supplies are becoming contaminated and therefore unusable. Once contaminated, a ground water aquifer is usually difficult and expensive to clean up, and it often takes many years of "pumping and treating" before water quality is restored.

Detection of ground water quality is also difficult and expensive. Therefore, the most effective ground water protection policies are those which rely on prevention of contamination rather than treatment of contaminated aquifers.

H.R. 2734 was introduced to address the need for increased research, and to provide the EPA with a specific Congressional directive for expanded ground water research, demonstration, and training programs. The bill provides for coordination among the various federal agencies involved in ground water research and protection by creating an Interagency Ground Water Research Committee.

Legislative History

H.R. 2734 was introduced by the Chairman of the Subcommittee on Natural Resources, Agriculture Research, and Environment, Rep. James Scheuer, on June 22, 1989. The bill was referred jointly to the Committees on Agriculture; Energy and Commerce; Interior and Insular Affairs; Public Works and Transportation; and Committee on Science, Space, and Technology. On August 2, 1989 the Subcommittee held a hearing on H.R. 2734. Testimony was received from state and industry representatives who discussed the quality of the nation's ground water and evaluated federal and state efforts to protect ground water. On October 3, 1989, the Subcommittee held a joint hearing with the Agriculture Subcommittee on Department Operations, Research, and Foreign Agriculture on H.R. 2734 as well as H.R. 37, the National Ground Water Contamination Research Act, a similar bill which had passed the House in the 100th Congress as H.R. 791. On November 16, 1989 the Subcommittee market up and reported both H.R. 2734 and H.R. 37 with a substitute amendment to the Committee on Science, Space, and Technology. The Committee considered and market up H.R. 2734 on February 21, 1990, and reported it to the House on October 1, 1990 (Report #101-775). No action was taken by the other House Committees with referral. Committee Publication Numbers 101-105; H. Rept. 101-775.

2.5—ENVIRONMENTAL RESEARCH, DEVELOPMENT, AND DEMONSTRATION ACT (H.R. 4873)

To authorize appropriations for environmental research, development, and demonstration for fiscal years 1991, 1992, and 1993, and for other purposes.

Background and Summary of Legislation

The Subcommittee on Natural Resources, Agriculture Research, and Environment has legislative jurisdiction over the environmental research, development, and demonstration programs of the EPA. Authorizing legislation for such activities has expired. In the 100th Congress, the House passed H.R. 2335, a two-year EPA research authorization bill, but the Senate failed to act.

EPA's Office of Research and development (ORD) is responsible for EPA's in-house and extramural research programs. ORD accounts for about eighteen percent of EPA's total operating budget (excluding Superfund and construction grants). Most of ORD's in-house research is carried out in its laboratories and field stations.

However, about two-thirds of EPA's research is extramural. EPA carries out its extramural research program through grants, cooperative agreements, and contracts with universities, consultants, and contractors. EPA's research program is intended to support the Agency's regulatory mission under various environment statutes.

The Administration requested a total of $449.6 million for the FY 91 research and development program, an increase of $27.7 million, or percent, over current FY 90 levels. The extramural research program, excluding Superfund and the underground storage program, increased by $19.1 million, about 8 percent, while the request for the intramural program increased by $13 million, about 11 percent. While the nominal budget for R&D increased from $228.5 million in fiscal year 1980 to $449.6 million in fiscal year 1991, EPA's research budget for FY91 would be about 16 percent smaller than it was in 1980, taking inflation into account.

H.R. 4873 provided an authorization amount of $409,094,000 for research development, and demonstration at EPA, which is 8.5 percent above the Administration request. The Committee recommended funding for fiscal year 1992 in the amount of $476,857,000, an increase of about 17 percent over the recommended fiscal year 1991 levels. Funding for fiscal year 1993 is recommended at $554,990,000. Some policy direction is also provided in the bill. For example, the bill stipulates that 10 percent of the funds allocated to research in the "multimedia" research program should be available for replacement of laboratory equipment, to help address the widespread and serious problem of aging and inadequate laboratory equipment. The bill gives specific legislative authority for EPA's "core" research program to support fundamental research in ecological health, and risk reduction research. It also provides legislative authority for EPA's new environmental monitoring initiative to assess ecological status and trends, called the Ecological Monitoring and Assessment Program, or EMAP. A section of the bill directs EPA to carry out a research and monitoring program increase understanding of the regional, national, and global effects of environmental perturbation and pollution on biological diversity. Another section authorizes research to study the potential health effects as a result of exposure to electric and magnetic radiation.

The Subcommittee on Natural Resources, Agriculture Research, and Environment is interested in developing a concept for establishment of a national environmental research institute which would carry out the much-needed long-term, ecological research now being neglected at EPA. To assist the Committee in its determination of the most beneficial mechanism and structure of such an institute, the bill authorizes EPA to contract with the National Academy of Science to conduct a one-year study to develop recommendations on establishing an institute.

Legislative History

H.R. 4873, The Environmental Research, Development, and Demonstration Authorization Act of 1990, was introduced on May 22, 1990 by Rep. James Scheuer, Chairman of the Subcommittee on Natural Resources, Agriculture Research, and Environment. The Subcommittee held hearings on a Subcommitte draft of the bill on April 3, 1990, and heard testimony from Erich Bretthauer, Envi-

ronmental Protection Agency; John Neuhold, EPA Science Advisory Board; Michael Overcash, EPA Center for Waste Minimization at North Carolina State University; and Thomas W. Zosel, Minnesota Mining and Manufacturing Company. The purpose of the hearing was to review the Administration's proposed budget and activities of the Office of Research and Development (ORD) and to examine the proposed direction and adequacy of the Agency's research and development programs. In particular, the Subcommittee was interested in the implementation of the Science Advisory Board recommendations concerning a core research program, including pollution prevention. H.R. 4873 was considered and ordered reported by the Committee on Science, Space, and Technology on May 23, 1990. Committee Publication Number 101-151.

2.6—THE NATIONAL BIOLOGICAL DIVERSITY CONSERVATION AND ENVIRONMENTAL RESEARCH ACT (H.R. 1268)

An original bill to establish a comprehensive national policy for biological resources, and for other purposes.

Background and Summary of Legislation

Biological diversity refers to the variety and variability among living organisms and the ecological complexes in which they occur. Conservation of ecosystems, with their diverse components, is necessary to ensure ecological processes such as climate moderation, production and conservation of soils, nutrient cycling and degradation of wastes and pollutants. Maintenance of biological diversity is a necessary investment in the continued functioning of natural environments and as raw materials for future needs in the area of agriculture and pharmaceutical products development.

In addition to its obvious economic value as a source of important products, the diversity of biological resources also serves important environmental functions. Genetic and species diversity are necessary components of a healthy, functioning ecosystem. Soil productivity, for example, depends on nutrient cycling, which itself is a function of a complex interrelationship among microorganisms, plants, and animals. The degradation of wastes (both natural and man-made) depend upon ecological processes involving microorganisms, plants, and animals. Biological resources play a major role in moderating the physical environment of the earth, as evidenced in tropical forests which store carbon and thus reduce the atmospheric concentration of carbon dioxide. The loss of diversity at all levels disrupts ecological processes and can lead to environmental degradation, ranging from soil erosion and the loss of soil productivity to climate change.

Although it is difficult to quantify the non-economic values served by biological diversity, it is clear that Americans place a significant aesthetic and moral value on their natural resources, regardless of the economic worth associated with those resources. Concern about conservation of species, both plant and animal, has long been enshrined in American law and custom. Americans pay $50 million annually in admission fees for National Parks, to view diversity as manifested in the giant redwood forests and the herds of native animals.

The current rate at which we are losing biological resources is unprecedented since the ice age some 65 million years ago. Scientists estimate that 20–25 percent of the species existent today will be extinct by the turn of the century. Many of these losses are the unintended consequence of human activity and most of these losses are irretrievable.

The conservation of biological resources has become a heated public policy debate with politicians and scientists openly critical of the way in which other countries are managing their natural resources. While the loss of biological resources in the Amazonian rainforest have received much attention, no less critical are the losses in our own country.

The tropical forests found in Hawaii and Puerto Rico are among the richest biotic communities in the world, containing more than 50 percent of the Nation's species inventory. These forests are currently being destroyed at rates of 50–100 acres per minute. Only remnants of these ecosystems will survive into the next century if this course of action is not changed. Although the destruction of the tropical forests is the most severe in terms of the number of species affected other habitats, such as the wetlands of the northeastern U.S., hae been severely compromised.

Current legislation aimed at protecting biological resources in the U.S. is largely piecemeal. Despite some 29 laws designed to protect biological resources in the United States, the number and rate of extinctions of plant and animal species are growing, and ecosystems including wetlands, forests and rangelands are being disrupted and impoverished. H.R. 1268, the National Biological Diversity Conservation and Environmental Research Act, specifically establishes a national policy to conserve biological divesity as self-sustaining plant and animal populations in intact ecosystems; directs the development of a Federal conservation strategy; creates a National Center for Biological Diversity and Conservation Research; and requires environmental impact statements to contain information on how Federal actions would effect biological diversity.

H.R. 1268 directly addresses the key issues associated with the conservation of biological diversity including strengthening the national commitment to conservation and maintenance of biological resources, increasing the technical ability to maintain biological diversity, enhancing the knowledge base, and supporting international initiatives. The Act makes conservation of biological diversity a national goal and directs that biological diversity be explicitly considered in environmental impact statements; directs agencies to review their programs to be consistent with conservation of biological diversity and establishes a mechanism for a coordinated Federal strategy for conserving biological diversity. The Federal strategy is to be developed by a committee representing the Federal agencies that manage or study natural resources.

A National Center for Biological Diversity and Conservation Research is established to assess the status of the Nation's biological resources, take steps to increase understanding of biological natural resources through inventory and monitoring, and to make this information usable for policy-makers. The Center is authorized to develop a coordinated network of biological data bases and to plan, initiate, and provide financial support for an ongoing survey of the

biota. The Center is to be established within the Smithsonian Institution in cooperation with the Environmental Protection Agency.

The bill calls for a coordinated effort to prevent further loss of biological diversity by gathering information and using it in environmental planning.

Legislative History

H.R. 1268, the National Biological Diversity Conservation and Environmental Research Act was introduced on March 2, 1989 by Representative James H. Scheuer, Chairman of the Natural Resources, Agriculture Research and Environment Subcommittee. The bill was jointly referred to the Committee on Science, Space, and Technology and the Committee on Merchant Marine and Fisheries. Companion legislation was introduced by Senator Albert Gore (S. 201) and Senator Daniel Patrick Moynihan (S. 2368).

On May 17, 1989 the Subcommittee on Natural Resources, Agriculture Research and Environment met to conside H.R. 1268. Testimony on the coordination of federal efforts to protect diversity was received from Dr. John D. buffington, Fish & Wildlife Service; George M. Leonard, Forestry Service; and Dr. Thomas E. Lovejoy, Smithsonian Institute, Dr. Peter R. Jutro, Environmental Protection Agency. Witnesses testifying on the steps necessary to protect biological diversity included: Dr. M. Rupert Cutler, Defenders of Wildlife; Mr. David Ford, National Forest Products Association; and Mr. John Heissenbuttel, American Forest Council. Testimony on research priorities was received from Dr. Donald A. Falk, Center for Plant Conservation; Dr. Donald Waller, Sierra Club; and Dr. W. Donald Duckworth, American Institute for Biological Sciences.

On July 26, 1989, the Subcommittee considered and ordered reported H.R. 1268, with an amendment in the nature of a substitute to the full Committee for further consideration. Subsequently, the bill, with an amendment in the nature of a substitute, offered by Chairman Robert A. Roe was considered and ordered reported by the Committee on June 13, 1990. Committee Publication Number 101-30; H. Rept. 101-901.

2.7—THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION ACT OF 1990 (H.R. 4115)

A bill to authorize certain atmospheric, satellite, ocean, coastal and weather programs of the National Oceanic and Atmospheric Administration for FY 1991, and for other purposes.

Background and Summary of Legislation

The National Oceanic and Atmospheric Administration (NOAA) was created in 1970 by Executive Order of the President through Reorganization Plan #4. Since its establishment, NOAA has obtained most of its funding for its major programs through direct appropriation with little or no legislative authorization. In the 98th Congress, legislation authorizing NOAA activities, S. 1097, was vetoed by the President on October 19, 1984. In the 99th Congress, the Consolidated Omnibus Budget Reconciliation Act of 1986 (P.L. 99-272) authorized various NOAA activities, including nautical and

aeronautical chart programs, marine research and monitoring, ocean pollution research, and weather modification research. During the 100th Congress, provisions authorizing appropriations for NOAA's satellite, atmospheric, and weather programs (previously approved by the House of Representatives and the Senate as S.1667) were included in Title IV of S.2209, the National Aeronautics and Space Administration Authorization Act for Fiscal Year 1989, which was signed into law on November 17, 1988 (P.L. 100-685). (See also H.R. 1668 and H.R. 2427)

The National Oceanic and Atmospheric Administration is comprised of five components: the National Weather Service (NWS); the National Environmental Satellite, Data, and Information Service (NESDIS); the Office of Oceanic and Atmospheric Research (OAR); the National Ocean Service (NOS); and the National Marine Fisheries Service (NMFS).

The National Weather Service (NWS) is responsible for weather forecasts and severe weather services such as hurricane, tornado, and flash flood warnings and alerts. The National Weather Service is also responsible for climate forecasts, agriculture weather and fire weather services, as well as marine forecasts and marine severe weather warnings.

The Office of Oceanic and Atmospheric Research (OAR) conducts most of the research in support of NOAA's service organizations. Major programmatic activities of OAR include climate research and forecasting, basic tornado and hurricane research, weather forecast model research and development, ozone depletion research, climate and global change monitoring and research, and reemote sensing development.

The National Environmental Satellite, Data, and Information Service (NESDIS) is responsible for providing operational satellite services for NOAA and the Nation. NESDIS procures, operates and maintains the spacecraft and ground system components to two weather satellite systems, the geostationary satellite system and the polar-orbiting satellite system. The geostationary system provides near-continuous observations of the Earth's western hemisphere to support the provision of weather warnings, forecasts and other applications. The polar-orbiting system obtains global environmental data such as measurements of the vertical temperature of the atmosphere, sea surface temperatures, cloud motion and winds. The polar satellites also provide a relay function for global emergency signals from aircraft and ships in distress. The National Environmental Satellite, Data, and Information Service is also responsible for the operation of the land remote-sensing satellites, Landsat 4 and Landsat 5, and the implementation of the Landsat Commercialization program.

The National Oceanic Service (NOS) is responsible for the coastal zone management program, the licensing of deep seabed minerals, production of nautical and aeronautical charts, and ocean observations and assessments.

The National Marine Fisheries Service (NMFS) is responsible for the management, conservation, and development of the nation's living marine resources, marine animals, and endangered species and their supporting environment within the 200-mile Exclusive Economic Zone.

H.R. 4115, as amended by the Committee on Science, Space, and Technology, and the Committee on Merchant Marine and Fisheries, authorizes $1,351,441,000 in FY 1991 and $1,526,949,000 in FY 1992 for the ocean service, oceanic and atmospheric research, satellite, weather, and program support activities of the National Oceanic and Atmospheric Administration (NOAA).

BILL SUMMARY

[In thousands of dollars]

Category	Fiscal year—	
	1991	1992
National Weather Service	450,850	509,863
National Environmental Satellite, Data, and Information Service	280,624	339,893
Office of Oceanic and Atmospheric Research:		
Climate and Air Quality Research	111,385	130,186
Atmospheric Research	45,895	43,200
Ocean and Great Lakes Programs	86,787	92,392
National Ocean Service	195,232	213,618
Program support	180,668	197,797
Total	1,351,441	1,526,949

Title I authorizes appropriations to the Department of Commerce for FY 1991 to carry out activities of the National Oceanic and Atmospheric Administration (NOAA) relating to: mapping, charting, and geodesy; observation and assessment; ocean and coastal management, under title III of the Marine Protection, Research, and Sanctuaries Act of 1972; climate and air quality research; atmospheric research; and ocean and Great Lakes research.

Title I authorizes appropriations pursuant to provisions of the National Sea Grant College Program Act for priority oyster disease research; and to the National Sea Grant College Program for technical assistance to Pacific island nations on certain marine-related problems through the Pacific Island Network program. Title I authorizes appropriations to the Department of Commerce to carry out activities of the NOAA relating to: executive direction and administrative activities; acquisition, construction, maintenance, and operation of facilities; marine services; and aircraft services.

Title I authorizes appropriations for climate, air quality, and atmospheric research activities. This includes research to develop improved prediction capabilities for atmospheric processes which produce tornados and hurricanes; seasonal and long-term climate research; acid rain research; ozone depletion research, solar-terrestrial research and warnings; and global climate change research.

Title I also requires the Committee on Earth Sciences of the Federal Coordinating Council for Science, Engineering, and Technology to conduct a study and report to specified committees of the Congress regarding satellite oceanography, and directs the Under Secretary of Commerce for Oceans and Atmosphere to submit to Congress a report on how current and planned Federal satellite capabilities can aid Federal fisheries laws enforcement and international fisheries conservation programs implementation.

Title II authorizes appropriations for the operations and research activities of the National Weather Service. These programs include

the activities of all the National Weather Service offices, such as hurricane, tornado, flash flood, and other severe weather warnings and forecasts; agriculture weather services, fruit frost warnings, and forest fire weather support services. Title II authorizes appropriations for the development, acquisition, and implementation of major public weather warning and forecast systems to modernize the National Weather Service. This includes the acquisition of a nationwide network of new Doppler weather (NEXRAD) radar systems; a system of automated weather observation stations; and a set of high speed computers to tie these systems together with a new meteorologist work station system.

Title II also directs the Secretary of Commerce to prepare and submit to Congress a National Implementation Plan for the Modernization of the National Weather Service, and prohibits the closure, consolidation, automation or relocation of weather offices unless the Secretary of Commerce certifies that such action will not result in any degradation of weather services provided to the affected area.

Title III authorized appropriations for NOAA's satellite observing system activities including spacecraft procurement, launch, and operations involving the polar-orbiting weather satellites and associated search-and-rescue system; the geostationary weather satellites; and the land remote-sensing (Landsat) satellites. Title III also authorizes appropriations for NOAA's climate, geophysical, and environmental assessment, data and information services, and transfers authority for the archiving of Landsat remote sensing data to the Department of Interior.

Title IV of the bill establishes an Agriculture Weather Information Service within the Department of Agriculture to work in cooperation with the agriculture weather programs as authorized by the Subcommittee on Natural Resources, Agriculture Research and Environment.

Title V directs the Secretary of Defense and the Secretary of Commerce to establish a Tropical Cyclone Research program and directs the Department of Defense to continue operation of the hurricane reconnaissance aircraft program.

Hearings

The Subcommittee on Natural Resources, Agriculture Research and Environment held numerous hearings on the atmospheric, weather, satellite and environmental data programs of the National Oceanic and Atmospheric Administration during the 101st Congress. (See H.R. 1668 and H.R. 2427.)

On June 26, 1990, the Subcommittee held a hearing on coastal monitoring and estuarine research. Testimony was heard on NOAA's National Status and Trends program; EPA's Environmental Monitoring and Assessment program; the National Estuarine Research Reserve System mandated by the Coastal Zone Management Act; the National Estuarine Program mandated by the Water Quality Act; proposed new satellite remote-sensing programs for oceanographic research and monitoring; and interagency efforts to coordinate and establish a national ocean and coastal monitoring and research program.

On March 20, 1990, the Subcommittee held a hearing on the fiscal year 1991 NOAA budget request for atmospheric research, weather, environmental data, and satellite programs. NOAA officials testified concerning the adequacy of the Administration's FY 1991 budget request in enabling NOAA to fulfill its Congressionally mandated missions; the appropriate role and level of support for NOAA research and development programs; the status and plans for the modernization of the weather services; the status and plans for Landsat and satellite remote-sensing; the problems, budget shortfalls, and plans for data programs at NOAA; and NOAA's leadership role in the interagency program of climate and global change research. Testimony was heard from Dr. John A. Knauss, Undersecretary for Oceans and the Atmosphere and Administrator, National Oceanic and Atmospheric Administration, U.S. Department of Commerce; Dr. Elbert W. "Joe" Friday, Director, National Weather Service, National Oceanic and Atmospheric Administration; Mr. Thomas N. Pyke, Jr., Assistant Administrator for Satellite and Information Services, National Oceanic and Atmospheric Administration; and Dr. Allan Thomas, Acting Assistant Administrator for Oceanic and Atmospheric Research, National Oceanic and Atmospheric Administration.

On February 15, 1990, the Subcommittee on Natural Resources, Agriculture Research and Environment and the Subcommittee on International Scientific Cooperation held a hearing on Innovative Applications, Advanced Technologies, and New Markets for Landsat remote sensing in Riverside, California. The hearing examined the long-term future of U.S. civil remote-sensing; recent studies of the commercial viability of the Landsat system; and the development of new markets for remote-sensing from space.

On May 9, 1989, the Subcommittee on Natural Resources, Agriculture Research and Environment and the Subcommittee on International Scientific Cooperation held a joint hearing on the Future of Landsat Commercialization. The hearing examined the long-term future of U.S. civil remote-sensing; recent studies on the commercial viability of the Landsat system; and the pros and cons of possible bilateral and multilateral consortia in space remote-sensing. Testimony was heard from representatives of the French, Soviet and Japanese remote-sensing systems; representatives of the NOAA Landsat Marketing study contractors; and other expert witnesses from the private-sector and academia.

On April 7, 1989, the Subcommittee held a hearing on Hurricane Forecasting and Reconnaissance in West Palm Beach, Florida. The hearing examined the hurricane forecast and reconnaissance programs of the National Weather Service and the status of the hurricane aircraft reconnaissance program operated by the U.S. Air Force. Testimony was heard from the Director of the National Hurricane Center; the Deputy Assistant Administrator of the National Environmental Satellite, Data, and Information Service, National Oceanic and Atmospheric Administration; the Air Weather Services of the U.S. Air Force; private-sector meteorologists, and professors of meteorology.

On March 7, 1989, the Subcommittee held a hearing on the Proposed Termination of the Landsat 4 and Landsat 5 satellites. The hearing examined the scheduled termination of the Landsat 4 and

Landsat 5 remote-sensing satellites due to a lack of funding available to support operational expenses. Testimony was heard from the Assistant Administrator for Satellite and Information Service, National Oceanic and Atmospheric Administration; the Deputy Assistant Secretary of Defense for Command, Control, Communications, and Intelligence, Department of Defense; the Director of the U.S. Geological Survey, Department of Interior; and the Chairman of the World Agriculture Outlook Board, Department of Agriculture. In addition, the Subcommittee heard from a wide range of public and private-sector users of the landsat system; and representatives of the corporate entity designated to commercialize Landsat.

On March 3, 1989, the Subcommittee held a hearing on Tornado Forecasting and Severe Storm Warnings, in Raleigh, North Carolina. The hearing focused on the ineffectiveness of the National Weather Service in providing tornado warnings during the severe storms and tornadoes of November 27-28, and identified new technologies to improve the capabilities of the National Weather Service. Testimony was heard from the Deputy Director of the National Weather Service, the Director of the National Severe Storms Forecast Center, the Meteorologist in Charge at the Raleigh-Durham Weather Service Office, the Mayor of Raleigh and other local officials, local television meteorologists, and professors of meteorology from North Carolina State University and the University of North Carolina at Asheville.

Legislative History

H.R. 4115, the Ocean and Coastal Programs Authorization Act of 1990, was introduced by Congressman Hertel on February 27, 1990, and referred to the Committee on Merchant Marine and Fisheries. On April 4, 1990, the bill was approved as amended, by the Subcommittee on Oceanography and Great Lakes and by the Subcommittee on Fisheries and Wildlife Conservation. (Amended). The Committee on Merchant Marine and Fisheries approved H.R. 4115, as amended, on April 18, 1990, and ordered the bill reported. H.R. 4115 was reported to the House of Representatives on June 5, 1990 (House Report No: 101-519).

On June 12, 1990, H.R. 4115 was referred to the Committee on Science, Space, and Technology, sequentially, for a period ending not later than July 25, 1990. On June 13, 1990, the bill was referred to Subcommittee on Natural Resources, Agricultural Research, and Environment. On July 25, 1990, the Committee on Science, Space, and Technology was granted an extension for further consideration of H.R. 4115 for a period ending not later than August 31, 1990.

The Subcommittee on Natural Resources, Agriculture Research, and Environment approved H.R. 4115, as amended, on July 27, 1990, and forwarded the bill to Full Committee. On August 1, 1990, the Committee on Science, Space, and Technology approved H.R. 4115, as amended, and ordered the bill reported to the House of Representatives. H.R. 4115 was reported to the House of Representatives on August 30, 1990 (House Report No: 101-519 Part II).

On October 26, 1990, H.R. 4115 was called up by the House of Representatives under Suspension of the Rules and passed by a voice vote. H.R. 4115 was referred to Senate Committee on Com-

merce on October 26, 1990. Committee Publication Numbers 101-9, 101-11, 101-40, 101-43, 101-44, 101-48, 101-103, 101-104, and 101-144; House Report 101-519 (Part II).

2.8—THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION ATMOSPHERIC AND SATELLITE PROGRAM AUTHORIZATION ACT OF 1989 (H.R. 2427)

An original bill to authorize certain atmospheric, satellite and weather programs of the National Oceanic and Atmospheric Administration for FY 1990, 1991, and 1992, and for other purposes.

Background and Summary of Legislation

The National Oceanic and Atmospheric Administration (NOAA) was created in 1970 by Executive Order of the President through Reorganization Plan #4. Since its establishment, NOAA has obtained most of its funding for its major programs through direct appropriation with little or no legislative authorization. Authorizations that did occur were limited to a few specific areas of interest such as the National Climate Program and marine pollution monitoring and research. In the 98th Congress, legislation authorizing NOAA activities, S. 1097, was vetoed by the President on October 19, 1984. In the 99th Congress, the Consolidated Omnibus Budget Reconciliation Act of 1986 (P.L. 99-272) authorized various NOAA activites, including nautical and aeronautical chart programs, marine research and monitoring, ocean pollution research, and weather modification research. During the 100th Congress, provisions authorizing appropriations for NOAA's satellite, atmospheric, and weather programs (previously approved by the House of Representatives and the Senate as S. 1667) were included in Title IV of S. 2209, the National Aeronautics and Space Administration Authorization Act for Fiscal year 1989, which was signed into law on November 17, 1988 (P.L. 100-685).

The National Oceanic and Atmospheric Administration is comprised of five components: (1) the National Weather Service (NWS); (2) the National Environmental Satellite, Data, and Information Service (NESDIS); (3) the Office of Oceanic and Atmospheric Research (OAR); (4) the National Ocean Service (NOS); and (5) the National Marine Fisheries Service (NMFS).

The National Weather Service (NWS) is responsible for weather forecasts and severe weather services such as hurricane, tornado, and flash flood warnings and alerts. The National Weather Service is also responsible for climate forecasts, agriculture weather and fire weather services, as well as marine forecasts and marine severe weather warnings.

Under the guidance of the Committee on Science, Space, and Technology, the National Weather Service has begun several major procurements to modernize its equipment. These major systems acquisitions include (1) a nationwide network of 160 new Doppler radar (NEXRAD) systems; (2) over 1,000 automated weather observation stations (ASOS); (3) a set of high speed supercomputers to tie all these sources of information together with (4), a new data processing, communication, and meteorologist work station display system (AWIPS). (See Modernization of the Weather Service)

The Office of Oceanic and Atmospheric Research (OAR) is responsible for the research to improve understanding of environmental systems needed for policy formulation in areas such as global climate change, acid rain, and ocean pollution.

The Office of Oceanic and Atmospheric Research (OAR) conducts most of the research in support of NOAA's service organizations. The Committee authorizes the weather, climate, air quality, and solar terrestrial research and service programs that are carried out by the Office of Oceanic and Atmospheric Research. Major programmatic activities of OAR include climate research and forecasting, basic tornado and hurricane research, weather forecast model research and development, ozone depletion research, climate and global change monitoring and research, and remote sensing development.

The National Environmental Satellite, Data, and Information Service (NESDIS) is responsible for providing operational satellite services for NOAA and the Nation. NESDIS procures, operates and maintains the spacecraft and ground system components to two weather satellite systems, the geostationary satellite system and the polar-orbiting satellite system. The geostationary system provides near-continuous observations of the Earth's western hemisphere to support the provision of weather warnings, forecasts and other applications. The polar-orbiting system obtains global environmental data such as measurements of the vertical temperature of the atmosphere, sea surface temperatures, cloud motion and winds. The polar satellites also provide a relay function for global emergency signals from aircraft and ships in distress.

The National Environmental Satellite, Data, and Information Services is also responsible for the operation of the land remote-sensing satellites, Landsat 4 and Landsat 5, and the implementation of the Landsat Commercialization program. Landsats 4 and 5 are operating beyond their designed lifetimes, but continue to provide data to users through EOSAT, the private company selected to commercialize the Landsat system. The Landsat 6 satellite, to be launched in 1991, and its ground system will be operated by EOSAT.

NESDIS is also responsible for archiving environmental data, from satellites and other sources, and making the data available to users. Oceanic, geophysical, and climatic data are archived at three facilities, the National Oceanic Data Center in Washington, D.C., the National Geophysical Data Center in Boulder, Colorado, and the National Climatic Data Center in Asheville, North Carolina.

H.R. 2427 authorizes appropriations of $862,775,000 in fiscal 1990; $920,695,000 in fiscal 1991; and $841,429,000 in fiscal 1992 for the weather, atmospheric research, and satellite programs and activities of the National Oceanic and Atmospheric Administration (NOAA) as follows:

[In thousands of dollars]

	Fiscal year—		
	1990	1991	1992
National Weather Service:			
Operations and Research	299,686	310,406	321,090
Public Warning and Forecast Systems	125,117	132,100	113,100
National Environmental Satellite, Data, and Information Service:			
Satellite Observing Systems	300,297	324,055	241,789
Environmental Data Management	30,000	31,200	32,448
Office of Oceanic and Atmospheric Research:			
Climate and Air Quality Research	61,347	74,762	83,481
Atmospheric Research	46,328	48,172	49,521
Total	862,775	920,695	841,429

Title I authorizes appropriations for the operations and research activities of the National Weather Service. These programs include the activities of the National Weather Service offices, such as hurricane, tornado, flash flood, and other severe weather warnings and forecasts; agriculture weather services, fruit frost warnings, and forest fire weather support services. Title I authorizes approrpriations for the development, acquisition, and implementation of major public weather warning and forecast systems to modernize the National Weather Service. This includes the acquisition of a nationwide network of new Doppler weather (NEXRAD) radar systems; a system of automated weather observation stations; and a set of high speed computers to tie these systems together with a new meteorologist work station system. Title I also directs the Secretary of Commerce to prepare and submit to Congress a National Implementation Plan for the Modernization of the National Weather Service, and prohibits the closure, consolidation, automation or relocation of weather offices unless the Secretary of Commerce certifies that such action will not result in any degradation of weather services provided to the affected area.

Title II authorizes appropriations for climate, air quality, and atmospheric research activities. This includes research to develop improved prediction capabilities for atmospheric processes which produce tornados and hurricanes; seasonal and long-term climate research; acid rain research; ozone depletion research, solar-terrestrial (sunspot) research; and global climate change research.

Title III authorizes appropriations for NOAA's satellite observing system activities including spacecraft procurement, launch, and operations involving the polar-orbiting weather satelites and associated search-and-rescue system; the geostationary weather satellites; and the land remote-sensing (landsat) satelites. Title III also authorizes appropriations for NOAA's climate, geophysical, and environmental assessment, data and information services.

Title IV of the bill establishes an Agriculture Weather Information Service within the Department of Agriculture to work in cooperation with the agriculture weather programs as authorized by the Subcommittee on Natural Resources, Agriculture Research and Environment. Title IV authorizes $5,000,000 in each of fiscal years 1990, 1991, and 1992 for the implementation of the service.

Hearings

The Subcommittee on Natural Resources, Agriculture Research and Environment has held six days of hearings on the atmospheric, weather, satellite and environmental data programs of the National Oceanic and Atmospheric Administration.

On April 4, 1989, the Subcommittee held hearings on the fiscal year 1990 NOAA budget request for atmospheric and satellite programs. NOAA officials testified concerning the adequacy of the Administration's FY 1990 budget request in enabling NOAA to fulfill its Congressionally mandated missions; the appropriate role and level of support for NOAA research and development programs; the status and plans for the modernization of the weather services; the status and plans for data programs at NOAA. In addition, the Subcommittee held several hearings relating to specific aspects of NOAA's activities.

On March 3, 1989, the Subcommittee held a hearing on Tornado Forecasting and Severe Storm Warnings in Raleigh, North Carolina. The hearing focused on the ineffectiveness of the National Weather Service in providing tornado warnings during the severe storms and tornados of November 27–28, 1988, and identified new technologies to improve the capabilities of the National Weather Service. During the severe storms and tornado of November 27–28, 1988, National Weather Service offices in North Carolina did not provide advance warnings to the public, and no tornado watch was issued prior to the initial tornado. The radar at the Raleigh-Durham weather office was out of service from November 20, 1988 to November 29, 1988, due to the lack of spare and spare part modification kits. The NWS internal investigation concluded that the event illustrated the ". . . compelling, almost desperate, need to upgrade and replace the nation's aged system of weather radars." Testimony was heard from the Deputy Director of the National Weather Service, the Director of the National Severe Storms Forecast Center, the Meteorologist in Charge at the Raleigh-Durham Weather Service Office, the Mayor of Raleigh and other local officials, local television meteorologists, and professors of meteorology from North Carolina State University and the University of North Carolina at Asheville.

On March 7, 1989, the Subcommittee held a hearing on the Proposed Termination of Landsat 4 and Landsat 5. The hearing examined the scheduled termination of the Landsat 4 and Landsat 5 remote-sensing satellites due to the lack of funding to support operational expenses. During the hearing it was announced that the Vice President, who also serves as Chairman of the National Space Council, has secured funding commitments sufficient to keep the satellites operating for a few more months, pending a Landsat policy review to be conducted by the National Space Council. Testimony was heard from the Assistant Administrator for Satellite and Information Service, National Oceanic and Atmospheric Administration; the Deputy Assistant Secretary of Defense for Command, Control, Communications, and Intelligence, Department of Defense; the Director of the U.S. Geological Survey, Department of Interior; and the Chairman of the World Agriculture Outlook Board, Department of Agriculture. In addition, the Subcommittee heard from

a wide range of public and private-sector users of the Landsat system; and representatives of the corporate entity designated to commercialize Landsat.

On April 7, 1989, the Subcommittee held a hearing on Hurricane Forecasting and Reconnaissance in West Palm Beach, Florida. The hearing examined the hurricane forecast and reconnaissance programs of the National Weather Service and the status of the hurricane aircraft reconnaissance program operated by the U.S. Air Force. Testimony was heard from the Director of the National Hurricane Center; the Deputy Assistant Administrator of the National Environmental Satellite, Data, and Information Service, National Oceanic and Atmospheric Administration; the Air Weather Services of the U.S. Air Force; private-sector meteorologists, and professors of meteorology.

On May 9, 1989, the Subcommittee on Natural Resources, Agriculture Research and Environment and the Subcommittee on International Scientific Cooperation held a hearing on the Future of Landsat Commercialization. The hearing examined the long-term future of U.S. civil remote-sensing; recent studies of the commercial viability of the Landsat system; and the pros and cons of possible bilateral and multilateral consortia in space remote-sensing. Testimony was heard from representatives of the French, Soviet and Japanese remote-sensing systems; representatives of the NOAA Landsat Marketing study contractors; and other expert witnesses from the private-sector and academia.

Legislative History

On May 11, 1988, the Subcommittee on Natural Resources, Agriculture Research and Environment approved, by unanimous voice vote, a subcommittee print, as amended, authorizing appropriations for the satellite, weather, and atmospheric programs of the National Oceanic and Atmospheric Administration for fiscal years 1990, 1991 and 1992, and ordered that a clean bill be introduced and reported to the full Committee for further consideration. A clean bill, H.R. 2427, was introduced on May 18, 1989.

On July 26, 1989, the Committee on Science, Space, and Technology approved H.R. 2427, with amendments, by unanimous voice vote, and ordered the bill reported to the full House of Representatives.

H.R. 2427, as amended, also included H.R. 1880, the National Agriculture Weather Information Act of 1989; H.R. 2479, the Tropical Cyclone Research Act of 1989; and H.R. 2873, the Land Remote-Sensing Data Archive Treansfer Act of 1989.

H.R. 2427 was passed by the House of Representatives, as amended, by a vote of 380–1, on September 6, 1989, and referred to the Senate Commerce Committee. Committee Publication Number 101–9, 101–11, 101–40, 101–43, 101–44, and 101–48, 101–A; House Report 101–216.

2.9—MARINE BIOTECHNOLOGY RESEARCH (H.R. 5922)

A bill to authorize the Secretary of Commerce to conduct a marine biotechnology research, training, and technology transfer study and program.

Background and Summary of Legislation

Marine waters cover approximately 71% of the earth's surface and harbor a wide variety of highly diverse biological communities. It has been estimated that more than 500,000 species of marine animals exist in the world's oceans. A similar number of species of algae, bacteria, and fungi organisms are distributed throughout the marine environment. Of the hundreds of thousands of marine organisms, a relative few have been studied in any detail. Fewer still have been examined at the genetic level. These organisms represent a significant resource that has not yet been developed.

Marine biotechnology, broadly defined, refers to the manipulation of marine organisms for improving goods and services to benefit humankind. The broad range of marine biotechnology includes such endeavors as enhancing production of fish and shellfish through aquaculture; waste treatment and biodegradation of pollutants; pharmacologically-active compound development; agrochemical production; disease detection and prevention; controlling the processes of biofouling; and industrial applications of enzymes with unusual properties.

H.R. 5922 directs the Secretary of Commerce, in consultation with the Director of the National Science Foundation, the Secretary of the Navy, and other Federal agencies, to conduct a study of the status of marine biotechnolgoy research, training, and technology transfer efforts in the United States and the comparative status of such efforts undertaken in foreign countries, and to report to Congress within one-year on the findings of the study. H.R. 5922 directs that the report make recommendations on for marine biotechnology research, training and technology transfer; include a plan which identifies agency roles in funding a Federal program of marine biotechnology research which may include the establishment of marine biotechnology centers by agencies other than the National Oceanic and Atmospheric Administration.

Hearings

On May 15, 1989, the Subcommittee on Natural Resources, Agriculture Research and Environment held a hearing in Baltimore, Maryland on Future Applications of Aquaculture and Marine Biotechnology to the Nation's Estuaries and Coastal Waters.

Testimony was heard from the Honorable William Donald Schaefer, Governor of the State of Maryland; the Honorable Kurt Schmoke, Mayor of the City of Baltimore; Stanley Heuisler, Chairman, Executive Committee, Christopher Columbus Center; Albert M. Copp, President, Charles Center Inner Harbor Mangement, Inc.; John Carey, Deputy Assistant Administrator for Ocean Service and Coastal Zone Management, National Oceanic and Atmospheric Administration; Dr. Michael Hooker, President, University of Maryland-Baltimore County; Dr. Fred Singleton, Executive Director, Center for Marine Biotechnology, Maryland Biotechnology Institute, University of Maryland; Dr. Frank Perkins, Dean, School of Marine Science, College of William and Mary; Bradley Powers, Aquaculture Coordinator, Maryland Department of Agriculture; Larry Simms, President, Maryland Waterman's Association; and

William Webster, Area Agent, Sea Grant Extension Program, University of Maryland.

Legislative History

H.R. 5922 was introduced by Congressman Tom McMillen (MD) on October 25, 1990, and jointly referred to the Committee on Merchant Marine and Fisheries, and the Committee on Science, Space, and Technology. On October 26, 1990, H.R. 5922 was called up by the House of Representatives under Suspension of the Rules and passed by a voice vote. Committee Publication Number 101-28.

2.10—THE INDOOR AIR QUALITY ACT OF 1990 (H.R. 5155)

To authorize a national program to reduce the threat to human health posed by exposure to contaminants in the air indoors.

Background and Summary of Legislation

Indoor air pollution poses a serious and widespread threat to human health. The Environmental Protection Agency estimates that radon is responsible for 8,000 to 40,000 cases of lung cancer each year and that other forms of indoor air pollution result in 3,500 to 6,500 annual cases of cancer. Research to characterize the exposure and the health effects of chemicals commonly found indoors needs to be expanded, and research to develop strategies and technologies that decrease human exposure to indoor contaminants should be established.

As concerns have been raised about the adequacy of the federal effort to combat the threat of indoor air contamination, additional research and increased coordination of federal efforts on indoor air quality have been proposed. Chairman Robert A. Roe (H.R. 5155), Representative Kennedy (H.R. 1530) and Senator Mitchell (S. 657) introduced legislation that addresses these concerns. The current legislation, the Indoor Air Quality Act of 1990, is designed to give the EPA the resources and the authority to characterize the nature and the pervasiveness of indoor air quality problems and to develop and promote adequate solutions. Ironically, EPA's own headquarters has received significant indoor air pollution related complaints by office workers.

Although the Clean Air Act establishes standards for the protection of ambient air quality, EPA has interpreted the term "ambient" to mean outdoor air. Although environmentalists have argued that these standards should be extended to indoor air, protection of air quality indoors is currently limited to only a subset of federal, state and local statutes.

Congress first appropriated funds for an EPA research budget for indoor air quality and radon mitigation in 1984, although overall guidance was lacking. In 1986, EPA's Science Advisory Board recommended that EPA pursue the development of a long-range research plan. Subsequently, Congress enacted the Superfund Amendments and Reauthorization Act (SARA) that included a provision, Title IV, which directed EPA to research indoor air health effects, to disseminate information concerning indoor air quality and to assess appropriate federal actions to mitigate indoor air pollution.

Overall, EPA has relied on a three-fold strategy in addressing indoor air quality: (1) continued research on the nature and magnitude of health effects; (2) development of mitigation strategies, including those that can be used on a voluntary basis; and (3) implementation of mitigation strategies in the case of high priority indoor contamination problems.

The ability of EPA to implement mitigation strategies has been limited by the authority available under the Toxic Substances Control Act (TSCA), the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Safe Drinking Water Act (SDWA).

Each of these authorities has different strengths and weaknesses when applied to indoor air quality. Under TSCA, many more substances could be regulated than under FIFRA, however, the administrative procedures under FIFRA make it easier to institute the restrictions. The authorities under the SWDA are limited to the evaporation of volatile organic compounds (VOCs) from water supplies such as contamination from home showers.

Despite the limited nature of these statutes, EPA has used TSCA to restrict the use of certain wood preservatives and is evaluating the regulation of formaldehyde in wood products and furnishings. Under FIFRA, lindane has been phased out as a fumigant and the termiticide chlordane was banned in the spring of 1988.

The federal response to indoor air quality has been fragmented with joint responsibilities among several agencies. The Consumer Product Safety Commission (CPSC) monitors the possibility of emissions from common home products. The Department of Energy (DOE) researches the relationship between air quality and energy conservation and in addition studies the health effects of radon exposure. The Department of Health and Human Services (HHS) has taken the lead in the major health effects study known as the Harvard "Six Cities" study. The Environmental Protection Agency (EPA) publishes consumer information on indoor air contamination problems and suggests possible remediation techniques. The National Institute for Occupational Safety and Health has assessed several hundred buildings and has developed expertise in determining practical solutions to indoor contamination.

Currently, the coordinating mechanism for federal indoor air policy is the Interagency Committee on Indoor Air Quality (CIAQ), formed in 1983. The CIAQ co-chaired by the EPA, CPSC, DOE and HHS (NIOSH) and includes ten additional agencies. Although CIAQ performs a valuable function, concerns have been raised regarding its effectiveness due to unclear direction, insufficient resources and the lack of a strong lead agency.

In 1983, the Natural Resources Subcommittee held its first hearing on indoor air quality. The Subcommittee heard testimony that despite a number of reports of adverse health effects associated with indoor air contaminants, the development of policy to reduce health risks was hindered by the scarcity of data on source distribution, building characteristics, exposure patterns and health risks.

In response to this inadequacy, the Subcommittee approved legislation that directed the EPA to establish a research program with respect to radon gas and indoor air quality. This proposal was incorporated as Title IV of the Superfund Amendments and Reauthorization Act of 1986. One of the requirements of this legislation

is a report to Congress on indoor air quality to be submitted by October 1988.

A representative of the Environmental Protection Agency testified before a Senate subcommittee in May 1989 and stated that the administration had not yet reviewed the policy recommendations on indoor air quality contained in the draft EPA Report on Indoor Air Quality, and thus the agency could not support or oppose the legislation. However, in August 1989, under the threat of the introduction of a Resolution of Inquiry, the EPA released its final report. This report includes recommendations and conclusions that mirror the intent of H.R. 5155. EPA provided substantive comments that supported the need for legislation but the Agency was unable to endorse the bill in their testimony before the Subcommittee on Natural Resources, Agriculture Research and Environment on September 27, 1989.

Legislative History

Hearings on indoor air quality were held by the Natural Resources, Agricultural Research and Environment Subcommittee in 1983, 1985 and 1988, and most recently, in July and September of 1989 (Hearings 101–89).

The first hearing of the 101st Congress was held on July 20, and included testimony from health experts in pulmonary and occupational medicine, an EPA worker who suffers from indoor air related disease, the Deputy Commissioner of Health of the State of New Jersey and representatives of the American Lung Association and the Environmental Defense Fund.

The second hearing of the session, held on September 27, examined the potential of legislation to improve coordination of federal indoor air efforts and thus subsequently improve the level of indoor air quality in both office and home environments. Representatives of the Environmental Protection Agency, the National Institute for Occupational Safety and Health and other federal agencies that have specific roles in the legislation, testified at this hearing. Testimony was also heard from indoor air quality consultants, Realtors, building managers and owners and manufacturers of products that may contribute to indoor air contamination.

The Subcommittee on Natural Resources, Agriculture Research and Environment reported H.R. 1530, as amended by the Subcommittee to the Committee on Science, Space, and Technology on March 8, 1990. Significant changes from the bill as introduced included a clarification of research program requirements in Section 5(b), strengthening the role of NIOSH in the National response strategy in Section 8, NIOSH replacing GSA as the lead in the Federal building evaluation and remediation program with responsibility for specific remediation responses given to the heads of individual Federal agencies, in Section 9, and expansion of the Indoor Air Panel of EPA's Science Advisory Board in Section 12, to include experts with knowledge in building assessment and mitigation technologies.

H.R. 5155, which incorporated H.R. 1530 with modifications and an amended version of H.R. 5138, was introduced by Chairman Robert A. Roe and ordered reported by voice vote of the Committee on Science, Space, and Technology on June 27, 1990. The report

(101-826, Part 1) was published on October 10, 1990. In addition, the Senate companion legislation, S. 657, was approved by the Committee on Environment and Public Works on May 24, 1990 (Report 101-304). On September 26, 1990, the measure was laid before the Senate by unanimous consent and after amendments were accepted, passed by voice vote. Committee Publication Number 101-89; H. Rept. 101-826, Part 1.

2.11—RADON MEASUREMENT PROFICIENCY ACT (H.R. 5138)

To direct the Administrator of the Environmental Protection Agency to conduct radon measurement proficiency research and establish a mandatory radon measurement proficiency program, and for other purposes.

Background and Summary of Legislation

Radon is a colorless, odorless radioactive gas that is emitted from natural underground materials such as uranium, phosphate, granite and certain types of shale as the uranium contained in these materials decays. When this natural decay process occurs outdoors, the radon that is produced dissipates and therefore poses virtually no threat to human health. However, when radon is emitted from underground materials near homes and other buildings, the gas can seep through cracks in foundations and become trapped in the building, thereby allowing it to accumulate to levels which are potentially health threatening. EPA has identified radon as a major health hazard, causing an estimated 20,000 cases of lung cancer each year. Although the extent of the radon threat has been debated, the view of its seriousness has been supported by public health officials and a review by the National Academy of Sciences. The EPA and the Office of the Surgeon General recommended in 1988 that every home in the U.S. be tested for radon contamination. Congress has responsed to the radon threat by enacting a series of statutes, including the Superfund Amendments and Reauthorization Act (P.L. 99-499), the Stewart B. McKinney Homeless Assistance Act. (P.L. 100-77), and the Indoor Radon Abatement Act (P.L. 100-551).

The radon proficiency program within EPA reviewed 40 companies in 1986 and over 700 in 1989. It now includes the participation of approximately 80% of radon testing companies. This means that one in five companies offering services to the public does not participate. In addition, those who fail to meet the minimum standard may continue to offer their product for sale. The Committee believes that a mandatory proficiency program would close these loopholes and thus provide better consumer protection and increased safeguards for public health. When reporting results from the proficiency program, EPA should present them in a manner which allows the public to compare and assess the performance of different devices. For example, after consideration of the accuracy and the precision of each testing device, radon devices should be ranked in decreasing order of reliability or grouped in a manner which facilitates consumer awareness of the accuracy and reliability of the tests.

A radon proficiency program should combine consumer protection with fairness towards radon companies that operate in good faith. Therefore, any program that is implemented should respect due process, allow explanation and appeal where appropriate, and guarantee expeditious retesting and reinstatement procedures. However, if the proficiency program finds that a testing device is conceptually flawed and unlikely to pass repeated tests, the retesting procedures should be designed so as to minimize delay in removing the unreliable device from the market.

Legislative History

On May 16, 1990, the Subcommittee convened oversight hearings to review progress in the area of radon testing and to identify ways to improve these policies. To date, the public response to the national effort to promote radon testing has been extremely disappointing. Only about 2% of homes in the U.S. have tested for radon contamination and an inadequate number have taken necessary corrective action. Hearing testimony indicates that a committed federal effort could help to ensure more adequate levels of testing and remediation responses.

In response to a request by the Committee on Science, Space, and Technology, the General Accounting Office (GAO) published a review of the accuracy of radon measurements and an evaluation of EPA's radon proficiency program in October 1989, and August 1990. The GAO concluded that despite progress in improving the accuracy of radon tests, radon measurements are uncertain and action should be taken to further improve their performance. The report suggested that opportunities exist to improve the accuracy of tests. These include changing the current voluntary RMP program to a mandatory program and ensuring that companies carry out effective quality assurance programs. Support for these approaches was voiced by several witnesses at the May hearing.

In response to the concerns raised by the GAO and the hearing witnesses, Reps. Roe and Schneider introduced H.R. 5138, a bill that directed the Administrator to carry out research related to radon testing and make mandatory the voluntary proficiency program. This bill was subsequently incorporated, with revisions, into H.R. 5155, the "Indoor Air Quality Act of 1990", as subection 8(d). This provision was also incorporated with modifications into H.R. 5835, the Omnibus Budget Reconciliation Act of 1990. Committee Publication Number 101-120

2.12—NATIONAL INSTITUTES OF THE ENVIRONMENT (H.R. 3904)

To establish a commission for the establishment of a National Environmental Institute, and for other purposes.

Background and Summary of Legislation

Environmental research is ongoing within universities, private industry, and local, state and federal governments. However, funding levels are often inadequate to accomplish the goals set by Congress. Proposals have been made to establish an interdisciplinary and multi-level forum, akin to the National Institutes of Health, to address unmet research needs and to train future scientists and en-

gineers. This need is most evident at agencies like the Environmental Protection Agency (EPA) where dual requirements for basic research and regulatory monitoring and enforcement are allocated very unequal budgets. While authority of agencies such as the National Science Foundation (NSF), National Oceanic Atmospheric Administration (NOAA), National Institutes of Health (NIH), and Department of Energy (DOE) is fairly broad, all but EPA either specifically exclude applied, policy relevant research, (e.g., NSF and NIH) or are concerned with only a small subset of environmentally-relevant substances and processes as they apply to their own mission (DOE, USGS, NASA). Of an estimated $227 million spent annually by seven federal agencies on environmental research grants, only about $26 million is spent on policy-relevant, non-health environmental research.

An EPA contractor study conducted in 1989 found that federal agencies fund about $81 million a year for investigator-initiated, policy-relevant environmental research. Environmental health research, funded by the National Institute of Environmental Health Sciences and other agencies, accounts for nearly two thirds of that total, leaving only about $26 million for non-health environmental sciences in such critical areas as environmental biology, transport, transformation, fate, effects, detection, and control of pollutants. The contractor's report warned that "chronically low funding levels are forcing many talented, experienced scientists away from EPA relevant research. . . . At the current funding level, the base of academic research talent available to EPA is seriously eroded rather than expanded and replenished."

The Subcommittee on Natural Resources, Agriculture Research and Environment has grown increasingly critical of EPA's research and development program over the last several years. In particular, the Subcommittee has been critical of the short-term and narrow focus of EPA's research program. In addition to expressing concerns about the nature and direction of EPA's environmental research, the Subcommittee has noted a decline in the level of funding for EPA research, both intramural (agency scientists) and extramural (contractors and grantees). EPA's support for academic research has been particularly poor, though it remains one of the few sources of federal funding for policy-relevant academic research in the environmental sciences.

The 1988 Alm Commission Report, "Future Risk: Research Strategies for the 1990's," recommended that EPA go beyond the role of regulator and begin to focus on pollution prevention as its prime environmental management strategy. This new direction would reemphasize EPA's research by focusing on long-term environmental research and protection strategies and would include technology and information transfer as well as education roles. The Commission's report further recommended establishment of a National Environmental Research Institute that would focus on ecological trends and assessments.

In the last year, the concept has gained increasing support. Three bills (H.R. 3904, H.R. 5341, and S. 2713) were all introduced during the 101st Congress to execute or study the desirability and mechanisms for establishing an environmental research institute. As passed by the House, H.R. 3904, which would have elevated

EPA to a Cabinet level, included provisions to establish a Center for Environmental Statistics that would carry out one of the functions originally envisioned for a National Environmental Research Institute. A committee of academics was formed specifically for the purpose of establishing an environmental analog to the National Institutes of Health. The concept was also endorsed by an editorial in the journal "Science." Finally, $400,000 was appropriated in EPA's research and development budget for a National Academy of Sciences study of the feasibility of a National Institutes of Environmental Research.

Hearing

On March 21, 1990 the Subcommittee on Natural Resources, Agricultural Research, and Environment held a hearing to explore the present problems in federally-funded environmental research, to consider the need for, and possible functions and structure of, a National Environmental Research Institute, and to receive testimony on H.R. 3904, the National Environmental Research Strategy Act of 1990, introduced by Mr. Saxton, and a Committee staff draft bill entitled the National Environmental Research Institute Act of 1990.

Testimony was taken from Senator Bill Bradley (D–NJ); Representative James Saxton (D–NJ); Mr. Tom Lovejoy, President, Society for Conservation Biology; Mr. Erich Bretthauer, Assistant Administrator, Office of Research and Development, U.S. Environmental Protection Agency; Dr. Ned Ostenso, Acting Chief Scientist, National Oceanic and Atmospheric Administration; Dr. Bernard Goldstein, Professor and Chairman, Department of Environmental and Community Medicine, University of Medicine and Dentistry at New Jersey; and Dr. Stephen Hubbell, Princeton University and Committee for a National Institutes of the Environment.

The public witnesses reiterated the need to expand our efforts to do environmental and applied ecological research, as well as our ability to increase coordination between and funding for agencies that currently conduct environmental biological research. They supported the proposed legislation and felt that a commission or study to assess the gaps in research and the processes that must ensue to redirect our efforts to toward these goals should appropriately be a step-by-step effort. Though the agency representatives lauded the findings of this legislation, Mr. Bretthauer, CEQ Chairman Mike Deland, and Dr. Ned Ostenso each opposed enactment because they felt that it was duplicative of their agency's efforts. Mr. Brethauer reversed this position in a letter of May 3 to Mr. Burdick, Chairman of the Senate Committee on Environment and Public Works where he stated that the official Administration position was that they supported S. 2371, companion legislation.

Legislative History

On January 25, 1990 Representative Saxton introduced H.R. 3904, The National Environmental Strategy Act of 1990, which was referred to the Committee on Science, Space, and Technology. On March 21, 1990 the Subcommittee on Natural Resources, Agricultural Research, and Environment heard testimony from witnesses on this bill. On March 29, 1990 Senator Bradley introduced H.R.

2371, a bill to direct the National Academy of Sciences to conduct a study of the feasibility of an umbrella research arm to support research on a variety of environmental issues. The Senate Committee on Environment and Public Works ordered the bill reported without amendment on June 12, 1990 (Report No. 101-354).

Companion legislation to the Bradley bill was introduced in the House by Representative Saxton on July 20, 1990. This bill, H.R. 5341, provides for the National Academy of Sciences to a study of the feasibility of an umbrella research arm to support research on a variety of environmental issues and was referred to the Committee on Science, Space and Technology.

On October 18, 1990, Congress approved a $400,000 appropriation for a National Academy of Sciences study on the feasibility of the National Institutes of Environmental Research in the FY 1991 appropriations act for EPA. The bill, H.R. 5158, was signed by the President on November 5, 1990 to become Public Law No. 101-507. Committee Publication Number 101-131.

2.13—POLLUTION PREVENTION ADVANCEMENT ACT (H.R. 3693)

To establish a national program for advancing pollution prevention practices and technologies through coordinated research and development, demonstration, and technology transfer activities, and for other purposes.

Background

It is becoming increasingly evident to the EPA, industry, and environmental groups that preventing pollution in the first place, rather than treating pollution after it has been generated, in the most cost-effective form of environmental protection. Pollution prevention and waste minimization methods and technologies are being adopted widely by industries, but further research is needed to improve these methods and technologies. The Pollution Prevention Advancement Act, H.R. 3693, establishes a new pollution prevention, research, development, and demonstration program at the EPA. The program would include both in-house research, development and demonstration activities on new and improved practices and technologies for pollution prevention. The bill directs EPA to give highest priority to source reduction of hazardous, toxic, or potentially dangerous waste and, with respect to non-hazardous waste, source reduction and recycling of wastes. EPA is also required to identify the environmental impacts of at least 10 new product constituents every year for five years. The bill authorizes $10 million in fiscal year 1991, $20 million in fiscal 1992, and $30 million in fiscal year 1993 to carry out pollution prevention research activities.

Legislative History

H.R. 3693, the Pollution Prevention Advancement Act, was introduced on November 11, 1989 by Rep. Howard Wolpe. The Subcommittee on Natural Resources, Agriculture Research, and Environment held a hearing on the bill and reported it to the Committee on Science, Space, and Technology on May 17, 1990. An abbreviated version of the bill, providing authorization for EPA to conduct a

pollution prevention R&D program, was included as part of H.R. 4873, the Environmental Research, Development, and Demonstration Act, by amendment during consideration and markup by the Committee on Science, Space, and Technology on May 23, 1990. Committee Publication Number 101-107

2.14—DOE OFFICE OF ENVIRONMENT, SAFETY, AND HEALTH (H.R. 3527)

An original bill to establish the Office of the Assistant Secretary of Environment, Safety, and Health.

Background

Epidemiology is the study of the distribution and determinants of diseases within a population. It is an active process which involves: Gathering illness and exposure data; analyses of those data in order to reach conclusion about exposures to harmful materials and to make decisions affecting worker and public health; and communication of conclusions so that appropriate prevention, monitoring, and treatment measures are in fact taken.

The quality of epidemiologic research is dependent upon the quality of the data obtained from medical surveillance, exposure monitoring, and environmental monitoring. Since epidemiology is an integral part of worker and community health and safety, the findings of this type of research must be integrated into policy decisions.

The Department of Energy and its predecessor agencies has been concerned about the health effects of radiation since its inception in 1948. The first epidemiologic research project funded by the Department was performed jointly with Japan and was a longitudinal study of the survivors of the Hiroshima and Nagasaki atomic blasts. This project, now known as the Radiation Effects Research Foundation, is an active ongoing project which has supplied the international public health community with essential data on the effects of ionizing radiation and has been the basis for establishing radiation protection standards.

The DOE complex is engaged in a variety of industrial and manufacturing activities. DOE workers face challenges to their health and safety across the spectrum of occupational exposures including chemicals and radiation. DOE began its first occupation exposure studies in the early 1960s with a study of radium dial painters who had ingested radionuclides and trace elements and a study of weapons production workers at the Hanford facility who were exposed to chronic, low levels of ionizing radiation. Although the Department continues to fund epidemiologic research on its workers, roughly half of DOE's financial expenditures in this area have been targeted for the support of the Radiation Effects Research Foundation.

Currently, the Office of Health and Environmental Research (OHER) supports 16 epidemiologic projects with a budget of $29.9 million in FY 1990. While the epidemiology program is responsible for setting research priorities, in most cases the primary investigators have been responsible for staffing, conducting the research, and for publishing the results. In 1990, ten research projects are being conducted by the Department's major contractors while 5 are

being conducted in universities. The budget for these projects is $12.789 million this year (up from $8.187 million in fiscal year 1989). The budget request for 1991 is $13.636 million. The remaining project in the research portfolio is the Radiation Effects Research Foundation which is managed by the National Academy of Sciences. U.S. participation in this project was $17 million in fiscal year 1989, $17.255 million for 1990 and is expected to be $18 million in 1991.

Although the epidemiology research program exists as a discrete entity within the Office of Energy Research, exposure and health data essential to epidemiologic monitoring are collected by programs located under the authority of the Assistant Secretary for Environment, Safety, and Health (ES&H). The ES&H budget for this activity has been $1 million for fiscal year 1989 and 1990. These funds are directed towards data collection and health physics research with an emphasis on improving dose measurement instrumentation and technology. In addition, the budget of the Assistant Secretary for Defense Programs contains $22.7 million (up from $13.5 million in FY 1989) for epidemiologic analysis of workers at various production facilities around the country. The Nuclear Energy budget contains $300,000 for worker studies at three facilities in fiscal year 1990.

Several bills were introduced in the 101st Congress which placed oversight for DOE's epidemiology program within the Department of Health and Human Services or make the Occupation Health and Safety Administration more directly responsible for DOE workers. These legislative approaches were crafted to address the perception that DOE cannot meet its production responsibilities while protecting worker health and safety. The Department has acknowledged specific problems in coordinating its epidemiologic research activities and the Secretary convened a panel (Secretarial Panel for the Evaluation of Epidemiologic Research Activities; SPEERA) to analyze the situation and develop specific recommendations for improving the Department's performance in this area.

The Environment, Safety and Health program has the responsibility to provide the Department of Energy with guidance on environment, safety, health and quality assurance policies, standards and compliance requirements. This office was created in 1985 by the Secretary of Energy for the purpose of assuring that national environmental protection goals are incorporated into the formulation and implementation of energy programs and policy. Reports of problems at DOE facilities coupled with the lack of independent, outside oversight of these facilities and the lack of candor on the part of field representatives with members of panels established by the Secretary to oversee safety at these facilities has heightened public concern over the Department's commitment to these activities.

H.R. 3577 would statutorily establish the Office of Environment, Safety and Health under the Assistant Secretary for Environment, Safety and Health to be assisted by a chief environment officer, a chief safety officer and a chief health officer.

Legislative History

H.R. 3527 was introduced by Representative James H. Scheuer on October 25, 1989 and referred to the Committee on Science, Space, and Technology Subcommittee on Natural Resources, Agriculture Research and Environment. On March 28, 1990 the Subcommittee convened a hearing to examine the status of epidemiologic research within the Department with a particular emphasis on the programs specifically authorized by this Subcommittee, the Office of Health and Environmental Research, and the Office of Environment, Safety and Health. Testimony was received concerning whether the structure embodied in H.R. 3527 would enhance the ability of the Office of Environment, Safety and Health to carry out its responsibilities across various programs.

Witnesses included, Kristine Gebbie, Chair, Secretarial Panel for the Evaluation of Epidemiologic Research Activities for the Department of Energy and Secretary of health for the State of Washington accompanied by Steven F. Boedigheimer, Executive Director of SPEERA. Testifying on behalf of DOE were Peter N. Brush, Acting Assistant Secretary, Office of Environment, Safety and Health and James F. Decker, Acting Director, Office of Health and Environmental Research.

Additional testimony was submitted for the record by Victor S. Rezendes, Director, Energy Issues, Government Accounting Office, David Lewis, Director for Policy and Legislation, Physicians for Social Responsibility and Dr. Ethel S. Gilbert, Staff Scientist, Battelle, Pacific Northwest Laboratory.

This bill did not receive further consideration by the Committee since the Department instituted several management changes which were at the heart of the legislation. These changes included the designation of a Special Assistant to the Secretary for environmental restoration and waste management, who is the equivalent of the position of chief environment officer. In addition, a newly created Office of Nuclear Safety serves in a function analogous to the chief safety officer. Following the report of the SPEERA panel, the Secretary established the position of a chief medical officer under the Assistant Secretary of Environment, Safety and Health to be responsible for coordinating occupational and community health (including epidemiologic research) within the Department and establishing standards for collecting information on worker health and exposure. Committee Publication Number 101–122.

2.15—THE ELECTRIC AND MAGNETIC FIELDS RESEARCH AND PUBLIC INFORMATION DISSEMINATION ACT OF 1990 (H.R. 4801)

An original bill introduced to authorize certain research and risk communication programs within the Department of Energy, and for other purposes.

Background and Summary of Legislation

Electric and magnetic fields are present wherever there is electric current. Electromagnetic radiation is a combination of electric fields which arise from the amount of charge in a line and magnetic fields which are the result of the motion of that charge. In the

U.S., power fields have a frequency of 60 hertz, that is, they alternate back and forth, 60 times a second.

Public concern about power fields emerged in the late 1960's when utility companies turned to extra high voltage transmission lines to handle large increases in electricity use. These lines are carried on large towers and have been associated with a variety of environmental disturbances including audible noise, radio and television interference and induced shocks that occur when a person standing below the line touches an ungrounded metal object. In the early 1970's the American National Standards Institute issued voluntary guidelines to address these effects.

In 1972, the first report was issued (from the Soviet Union) which attributed adverse health effects among power line workers to electromagnetic radiation. Since that time, a number of studies regarding the effect of electromagnetic fields on human health have yielded effects ranging from no measurable effect to increased cases of childhood leukemia correlated with proximity to residential power drops and increased incidence of brain cancer in telephone lineman.

It is different to understand how electromagnetic radiation does damage since unlike ionizing radiation (x-rays), power fields do not break chemical bonds in molecules and unlike microwave radiation, they do not cause heating in bodily tissues. Living cells maintain natural electric fields across their surface which are at least 100 times more intense than those that can be induced by exposure to power frequency (60 hertz) fields. However, studies have unequivocally demonstrated that the cell membrane is exquisitely sensitive to very small changes in external current and will respond to these changes biochemically (for example, changes in hormone levels or disruption of DNA synthesis).

The findings at the cellular level display considerable complexity. Unlike toxic chemicals such as PCBs and benzene, or physical agents such as ionizing radiation like the radiation emitted from the Chernobyl plant, the traditional dose response of "more is worse" does not apply. If exposure to power frequency fields leads to health risks, there is no clear evidence to suggest that exposure to stronger fields or exposure for longer periods is worse than exposure to weaker fields or brief periods.

The difficulty in extrapolating cellular level effects to predict the existence and severity of possible public health effects, together with the absence of any large scale and obvious public health effects associated with electrification, are the main arguments advanced to support the claim that there is no need for concern about exposure to power-frequency fields.

The federal government and the private sector (primarily the electric utility industry through the Electric Power Research Institute) have spent considerable time and effort in tracking down this elusive connection. The experiments have involved laboratory studies that expose single cells or tissues to fields under a variety of conditions and look for effects; laboratory studies that expose animals or humans to fields and look for effects in body function, chemistry, disease, or behavior; and epidemiologic studies of various human populations, which look for an association between exposure to 60 hertz fields and various diseases.

There have been many "negative" experiments that have looked for effects but have not found any difference between biological systems that have been exposed to the fields and those that have not. There is widespread agreement, however, that the isolated instances in which there have been demonstrable adverse effects on human health warrant further investigation.

The Department of Energy's Office of Energy Conservation has traditionally administered the EMF research program since 1978 with a total expenditure of some $435.6 million, the focus of which has been "physiologic studies to determine whether EMF is an issue." According to DOE, the Department is not investigating engineering solutions to this problem such as reconfiguration of electric wires, etc.—solutions that have been adopted by other countries as a way of minimizing human exposure to the uncertain risk of electromagnetic radiation.

The Department's Office of Health and Environmental Research supports epidemiologic projects but has not conducted any studies on EMF exposure among DOE workers. Exposure and health data essential to epidemiologic monitoring are also collected by programs located under the authority of the Assistant Secretary for Environment, Safety, and Health with an emphasis on improving dose measurement instrumentation and technology however, since EMF is not seen as a workplace hazard at DOE facilities, this office is involved in any studies.

Within the Environmental Protection Agency, the Office of Air and Radiation is responsible for the radiation protection activities of the agency. Six years ago, the Administration eliminated funding for EMF research. The FY 1991 authorization prepared by the Committee contains $1 million for EPA to conduct health effects research on EMF. The Appropriations Committee subsequently provided $700,000 for this activity. The National Institute of Environmental Health Sciences through the National Toxicology Program (NTP) will undertake a large epidemiologic investigation of possible adverse health effects of exposures of EMF beginning in 1991. The proposal is partially funded by the private sector and is intended to provide an assessment of the possible risks of reproductive disorders, developmental effects and cancer through long-term studies in animals. NTP predicts that more than one study will be needed to evaluate the separate and combined effects of electric and magnetic fields and to learn the range of field strengths that might be hazardous.

H.R. 4801, the Electric and Magnetic Field Research and Public Information Dissemination Act of 1990, establishes a federal program on the potential health effects of exposure to electric and magnetic fields. The bill directs DOE in consultation with EPA and NIEHS to administer such a research program and to provide an annual report to Congress on the status of this research and the need, if any, for additional regulations to protect human health. An Electric and Magnetic Fields Advisory Committee consisting of twelve members representing state and federal government, academe, scientific and professional organizations and environmental and public interest groups, will review the research conducted under this program and recommend priorities.

An Electric and Magnetic Fields Information Center is established within DOE to gather information on EMF and subsequently make such information available to the public. The bill authorizes $3 million in FY 91, $5 million in FY 92, $7 million in FY 93, $9 million in FY 94 and $10 million in FY 95 to carry out these activities through DOE. At least $1 million each year must be used to disseminate information through the Electric and Magnetic Fields Information Center.

Legislative History

H.R. 4801 was introduced by Representative Frank Pallone on May 10, 1990 and referred to the Committee on Science, Space, and Technology Subcommittee on Natural Resources, Agriculture Research and Environment.

On July 25, 1990 the subcommitte met to examine the status of the federal research effort on the health effects of electric and magnetic field radiation and to consider H.R. 4801 which requires the Department of Energy, in consultation with the Environmental Protection Agency and the National Institute of Environmental Health Sciences, to undertake epidemiologic studies on exposure to electromagnetic fields.

Representative Pallone testified on the importance of a coordinated federal research program on EMF. Dr. Ross Adey of the Jerry L. Pettis Memorial Veterans Hospital, Loma Linda Hospital provided an overview of the research which has led scientists to speculate on the potential health effects of EMF. Dr. Adey said that considerably more research is needed before a determination can be made regarding the effect of this radiation on public health.

Dr. William Farland of EPA testified on the Agency's activities in this area including a draft report which analyzed the potential carcinogenicity of EMF. DOE representative, Dr. Robert San Martin testified on the Department's long history of research on EMF and on the necessity for a coordinated federal research effort on EMF which would enhance the ability of DOE to carry out its responsibilities with respect to energy safety. Dr. Richard Griesemer of the National Institutes of Environmental Health Sciences testified on the need for carefully conducted long-term epidemiology studies in this area.

Mr. James Cunningham of the New York State Power Authority on behalf of the Large Public Power Council testified on the desirability of a public private sector consortium to perform research on EMF. Such an arrangement would eliminate criticism based on the self-interest of the party funding the research. Dr. David Nagel of Apple Computer, Inc. testified on the need for additional federal research on EMF and his corporation's willingness to design a product which emits the lowest level of electromagnetic radiation technically possible. Dr. Paul Zweiacker, of the Texas Utilities on behalf of the Edison Electric Institute cautioned against over-reacting to the potential health effects of EMF until further research on this subject is available and strongly supported increased federal spending on EMF research. Dr. Leonard Sagan and Dr. Stanley Sussman of the Electrical Power Research Institute provided testimony on the role of the private sector with regard to EMF research. Mr. Jeff Jacober, Rhode Islanders for Safe Power and Mr.

Dan Procaccini, Town Solicitor, East Greenwich, Rhode Island testified on the difficulty of obtaining information regarding the exposure levels posed by utility lines in residential areas and stressed the immediate need of providing consumers with guidelines regarding the relative risk posed by exposure to EMF.

Additional statements were submitted for the record by Ms. Karen Larsen, Office of Technology Assessment, Dr. M. Granger Morgan, Carnegie Mellon University and Mr. John Pickett, Computer and Business Equipment Manufacturers Association.

Specific language was inserted into the EPA authorization bill, H.R. 4873, regarding EMF research and the Appropriations Committee made $700,000 available for this purpose. Committee Publication Number 101-136.

2.16—FISCAL YEAR 1990 DOE BUDGET AUTHORIZATION: ENVIRONMENTAL RESEARCH AND DEVELOPMENT

Background

The Environment, Safety and Health program has the responsibiity to provide the Department of Energy with guidance on environment, safety, health and quality assurance policies, standards and compliance requirements. This office was created in 1985 by the Secretary of Energy for the purpose of assuring that national environmental protection goals are incorporated into the formulation and implementation of energy programs and policy. Reports of problems at DOE facilities coupled with the lack of independent, outside oversight of these facilities and the lack of candor on the part of field representatives with members of panels established by the Secretary to oversee safety at these facilities has heightened public concern over the Department's commitment to these activities.

The authority of DOE to perform biological research dates from the Atomic Energy Act of 1946 which specified research and development efforts on the use of radiation and radionuclides for medical diagnosis and the treatment of human disease. This has lead to the consolidation of various biological research programs within the Office of Health and Environmental Research on nuclear medicine, human genetics, radon, and radiation dosage as part of the Biological and Environmental Research Program. DOE was the first federal agency to recognize the value of undertaking a large-scale research project to decipher the human genetic profile. The Department's historical strength in managing large, multidisciplinary projects and its system of national laboratories make it uniquely suited to collaborating with the National Institutes of health in the human genome research project.

As part of its fiscal year 1990 budget proposal for Fossil Energy-related programs, the Department requested $1.05 million for the Liquefied Gaseous Fuels Spill Test Facility program. The Facility serves as a "test bed" for both industry and government in developing safety guidelines for the handling of liquefied gaseous fuels and other toxic liquids should they accidently be released during commercial transport manufacturing, or storage.

Increases in the manufacture, transportation and use of hazardous materials has resulted in 2000 chemical accidents annually

which seriously damage human health, environment and property. The most serious example is the methyl isocyanate release in Bhopal, India in 1984 in which 3000 people were killed and more than 200,000 injured.

Lack of knowledge about what actually happens when hazardous material is released into the atmosphere continues to be a major problem. Although a Memorandum of Understanding was ratified by DOE, the Environmental Protection Agency and the Department of Transportation in 1986, little real research is being carried out by the federal government or the private sector in this area. DOE has essentially halted all research in this field and simply maintains the field test site in Nevada.

Legislative History

The Subcommittee on Natural Resources, Agriculture Research and Environment held hearings on April 6 and 27, 1989 on the Department of Energy's fiscal year 1990 budget request.

Testimony on the Biological and Environmental Research Program which focused on the Department's efforts in the area of human genome research and nuclear medicine was received from Dr. Robert O. Hunter, Director, Office of Energy Research, DOE; Dr. David A. Shirley, Director, Lawrence Livermore Laboratory; Dr. Richard Setlow, Associate Director for Life Sciences, Brookhaven National Laboratory; and Dr. Fred Morse, Associate Director for Research, Los Alamos National Laboratory; accompanied by Dr. Ronald Walters, Program Director for Biological and Environmental Research and Dr. George F. Bell, Acting Director, Genome Center. Testimony was submitted for the record on behalf of The Society for Nuclear Medicine and the American College of Nuclear Physicians and by Dr. John Brademas, President, New York University.

Testimony on the Environment, Safety and Health Program which focused on innovative clean-up technologies under development at federal facilities was received from Mr. Peter N. Brush, Acting Assistant Secretary for Environment, Safety and Health, DOE; Mr. Leo P. Duffy, Special Assistant to the Secretary for Coordination of DOE Waste Management, DOE; Dr. E. Timothy Oppelt, Director, Risk Reduction Engineering Laboratory, Environmental Protection Agency; Dr. William Wiley, Diretor, Battelle Pacific Northwest Laboratory; Dr. John T. Whetten, Associate Director, Los Alamos National Laboratory; Dr. Robert Schock, Program Leader for Energy, Lawrence Livermore National Laboratory; and Dr. Tim E. Myrick, Manager, Office of Waste Management Operations, Oak Ridge National Laboratory. Testimony was submitted for the record by Dr. Gerald Ulrikson, Senior Vice President, Science Applications International Corporation.

Testimony was submitted for the record on the Liquefied Gaseous Fuels Spill Test Facility by J. Allen Wampler, Assistant Secretary for Fossil Energy, DOE; Dr. Ronald P. Koopman, Lawrence Livermore National Laboratory; and Dr. Fred Millar, Director, Toxic Chemicals Safety and Health Project Environmental Policy Institute.

On the basis of these hearings and briefings by Department officials, the Subcommittee supported the Administration's overall

budget request while making some adjustments to individual program. A draft authorization bill was considered and ordered reported to the full Committee on May 11, 1989.

Concerns raised in hearing testimony regarding the adequacy of the Department's research efforts on the handling of liquid gaseous fuels and other toxic fluids led to the inclusion of specific recommendations for this activity in Title IX Clean Air Act Amendments of 1990 (P.L. 549). The failure of the Memorandum of Understanding developed by the Department of Energy, the Environmental Protection Agency and the Department of Transportation to create an ongoing federal research capacity in this area led to the inclusion of language in the Clean Air Act which gives clear responsibility for monitoring and modeling of dense gas dispersion to the EPA. Committee Publication Number 101-38.

2.17—CHRISTOPHER COLUMBUS COIN AND FELLOWSHIP ACT (H.R. 2754)

To require the Secretary of the Treasury to mint coins in commemoration of the quincentenary of the discovery of America by Christopher Columbus and to establish the Christopher Columbus Fellowship Foundation.

Summary and Background of Legislation

Title I of H.R. 2754 would authorize the minting of gold, silver, and copper-nickel coins in commemoration of the quincentenary of the discovery of America by Christopher Columbus. The coins would be issued in 1992 and 1993. The coins would be sold to the public by the United States Mint with discounts for bulk orders and pre-issue orders. Surcharges on the coins would be deposited in the Christopher Columbus Fellowship Fund. The Secretary of the Treasury would be required to assure that the minting of the coins resulted in no net to the United States.

Title II of H.R. 2754 would establish the Christopher Columbus Fellowship Program. A board of Directors composed of members appointed by the President Pro Tempore of the Senate, the Speaker of the House, the minority leaders of the Senate and House, and the President would govern the Christopher Columbus Fellowship Foundation. The Foundation would award fellowships to individuals for research and study to produce new discoveries for the benefit of mankind. The Foundation would be funded by the surcharges on sale of Christopher Columbus coins. The General Accounting Office would be authorized to audit the activities of the Foundation.

Legislative History

H.R. 2754 was introduced by Rep. Annunzio on June 27, 1989 and referred jointly to the Committees on Banking, Finance and Urban Affairs; Science, Space, and Technology; and Education and Labor. The bill had a total of 229 cosponsors.

The Subcommittee on Consumer Affairs and Coinage of the Banking Committee held a hearing on the bill on February 28, 1990 and ordered the bill reported to the full Committee on September 12, 1990.

At the request of the Banking Committee, the Committees on Science, Space, and Technology, and on Education and Labor waived consideration of H.R. 2754 in order to allow the bill to be taken up by the House. On September 28, 1990, H.R. 2754 was passed by the House under suspension of the rules. On October 27, 1990, the Senate passed H.R. 2754 with an amendment. No further action was taken by the House.

2.18—THE BENJAMIN FRANKLIN MEMORIAL FIRE SERVICE BILL OF RIGHTS ACT (H.R., 3587; H.R. 4098; S. 1933)

To provide for the minting of coins in commemoration of the bicentennial of the death of Benjamin Franklin and to enact a fire service bill of rights and programs to fulfill those rights.

Summary and Bankground of Legislation

Firefighter's responsibilites go far beyond extinguishing the 2.4 billion fires that occur each year. Firefighters must be able to perform effectively at a wide range of emergencies, from fire to floods, from medical emergencies to hazardous materials spills, from earthquakes to riots. For each of these emergencies, the equipment and strategies are more complex than in the past, and firefighters must be trained to take advantage of modern equipment and techniques. The duties of firefighters do not end with emergency response. Prevention and protection activities are also the responsibility of many fire departments.

Approximately, 1.8 to 2 million firefighters serve in 25,000 fire departments in the Nation. Over 50,000 firefighters are injured each year making firefighting one of the Nation's most hazardous professions. In 1988, 134 firefighters, both volunteer and career, lost their lives in the line of duty.

The fire problem alone, presents a tremendous challenge to the fire service. An average of 6,000 Americans die from fire each year. The U.S. fire death rate is double or triple the rate for Japan, New Zealand and many European countries. In the U.S., fire causes more than $8.4 billion in direct property damage each year. The total direct and indirect cost to the American public of fires is $30 billion annually.

Legislative History

On November 2, 1989 Mr. Weldon and 69 members introduced H.R. 3587, The Benjamin Franklin Memorial Fire Service Bill of Rights. H.R. 3587 as introduced authorized the minting and sale of a commemorative coin series honoring Benjamin Franklin. One coin in the series would honor Franklin's role as founder of the fire service. Most of the surcharges on the sale of the coins would be placed in a trust fund reserved for fire programs administered by the U.S. Fire Administration (USFA), including several new programs established by the bill. The bill did not authorize the expenditure of any tax money for any of the programs. The proceeds of the coin sale would provide money for: the Franklin Institute in Philadelphia (25 percent of the surcharges on the coins); existing federal fire programs; including public education, technology development, arson, the national fire data center and the fire research

center (8 percent); and five new federal fire programs, whose creation accounts for the bulk of the bill (67 percent). The new programs created by the bill are: National Fire Center and Museum—a new museum in Washington, DC to illustrate the history of the fire service; National Hero Scholarship—college scholarships for children and spouses of firefighters who die in the line of duty; tuition assistance—college scholarships for firefighters enrolled in college programs "relating to fire safety and protection"; hazardous materials response equipment—a program under which the federal government would purchase computer equipment for each fire department in the country to track hazardous materials; and burn research and education—a one-time grant to a burn research foundation.

The bill included a "fire service bill of rights," which is, in effect, a series of findings about how the fire service ought to be treated. Also, the bill required the preparation of materials for firefighters on the availability of surplus federal property and on the risks posed by infectious diseases. The bill placed the National Fire Academy under the administrative control of the USFA—as originally intended by the National Fire Prevention and Control Act of 1974 (P.L. 93-498), which created the programs. The bill was jointly referred to the Committee on Science, Space, and Technology and the Committee on Banking, Finance and Urban Affairs.

On November 14, 1989 the Subcommittee on Science, Research and Technology held a hearing on H.R. 3587. Members of Congress, federal agencies and representatives of all the major fire service organizations presented their views on the legislation. As a result of the hearing, an amendment in the nature of a substitute was developed by Mr. Walgren and Mr. Boehlert, which refined the bill in response to concerns expressed by the International Society of Fire Services Instructors, the National Volunteer Fire Council, the International Association of Fire Chiefs. Mr. Weldon, the sponsor of the bill, and the major fire service organizations also supported the changes in the substitute.

The Subcommittee met on February 8, 1990, to consider H.R. 3587. The Chairman asked for unanimous consent that the amendment in the nature of a substitute to H.R. 3587 be used as the Subcommittee make-up vehicle. The substitute made the following changes: The language of the "fire service bill of rights" was changed to eliminate the use of the phrase "have a right to"; language was inserted to make it clear that the "rights" enumerated in the bill are not enforceable in court; language was inserted to require that all the scholarships provided in any given year be the same size except that none can exceed the cost of attending college, and that the hero scholarship was available only to survivors of firefighters who dies after the date of enactment. The hazardous material response equipment section was changed so the federal government itself does not purchase any equipment. Instead, available funds would be divided among the states on the basis of population, and each state would submit a plan, on how funds would be expended, for approval to the USFA. The provision to the states is a one-time grant to be offered by the time the total money available for the grants exceeds $25 million. Mr. Boehlert offered an amendment to make clear that no taxpayer money is to be used for

these new programs. The amendment also clarified that firefighters training must be an integral part of any fire prevention and control program. The Subcommittee, by voice vote, ordered the amendment in the nature of a substitute, as amended, to be adopted. The Subcommittee ordered H.R. 3587 to be reported to the Committee on Science, Space, and Technology.

On February 21, 1990, the Committee on Science, Space, and Technology considered H.R. 3587. A series of amendments were adopted by the Committee, by voice vote. Mr. Boehlert offered an amendment clarifying that a state must notify every fire department in the state of the availability of the grant funds for the purchase of computer equipment. Notification of all fire departments in a state was a concern of the National Volunteer Fire Council. Mr. Boehlert also offered an amendment to ensure that use of all fire program funds as authorized by (P.L. 100-476) the FY 89-91 Authorization for the Federal Fire Prevention and Contol Act of 1974 would be under the control of the USFA. The amendment complements the provision in the bill that would place the National Fire Academy under the USFA as was originally intended in the Organic Act (P.L. 93-498). Mr. Traficant offered an amendment authorizing the Administrator of the USFA, with the concurrence of the U.S. Trade Representative and the Secretary of Commerce, to awarded to foreign firm. The Committee ordered the bill, as amended, to be introduced as a clean bill.

On February 22, 1990, H.R. 4908 was introduced by Mr. Weldon, for himself, Mr. Gray, Mr. Walgren, Mr. Boehlert, Mr. Roe, Mr. Walker, and 268 other cosponsors. H.R. 4098 was referred jointly to the Committee on Science, Space, and Technology and to the Committee on Banking, Finance and Urban Affairs. On March 14, 1990, the Committee on Science, Space, and Technology ordered the clean bill, H.R. 4098, reported by voice vote. The legislative report (H. Rept. 101-459, Part 1) was filed on April 24, 1990. The House Committee on Banking, Finnnce and Urban Affairs took no action on the bill.

S. 1933, a bill identical to H.R. 3587, was introduced by Senator Heinz on November 20, 1989 and referred to the Committee on Commerce, Science, and Transportation. On July 31, 1990, S. 1933 was ordered reported without amendment by the Committee on Commerce, Science, and Transportation. The legislative report (S. Rept. 101-441) was filed on August 30, 1990. S. 1933 passed the Senate on October 26, 1990. The bill was referred to the House Committee on Banking, Finance and Urban Affairs on October 27, 1990. Committee Publication Number 101-76; H. Rept. 101-459, Part 1.

2.19—DEPARTMENT OF COMMERCE RESEARCH AND TECHNOLOGY AUTHORIZATION FOR FISCAL YEARS 1990, 1991, AND 1992 (S. 1191; H.R. 4329; H.R. 3042)

Summary and Background of Legislation

The Department of Commerce's National Bureau of Standards officially became the National Institute of Standards and Technology (NIST) on August 23, 1988 when the Omnibus Trade and Competitiveness Act of 1988 was signed into law (P.L. 100-418). The Tech-

nology Administration, comprised of NIST, the National Technical Information Service (NTIS), and a restructured Office of Technology Policy, was set up under the National Institute of Standards and Technology FY 1989 Authorization Act (P.L. 100–519), which was signed into law on October 24, 1988. Public Law 100–519 also mandated that NTIS remain a federal agency and directed that agency to modernize its operations. These two public laws gave the Department of Commerce major responsibilities in advancing the competitive position of U.S. industry through the support of industrial joint ventures, aid to inventors and small businesses, information dissemination and technology extension activities, and the strengthening of traditional measurement and standards programs.

The Administration's FY 1990 budget proposal to Congress for the programs that make up the Technology Administration was slightly below FY 1989 appropriated levels, after sequestration, and funds were included for the new activities authorized by the two public laws passed in 1988.

The FY 1991 budget request, for the first time, included funding for two of the more important technology transfer programs established in Public Law 100–519: $10 million for the Advanced Technology Program to provide grants to industry-led consortia to support research in generic, pre-competitive technologies; and $5 million for the Regional Manufacturing Technology Centers to provide matching grants to universities and non-profit organizations for use in establishing centers for the transfer of new and innovative manufacturing technology to small and medium-sized businesses. In FY 1991 the Administration requested for the NIST, a total of $198.4 million, which represented a $36.5 million increase over the NIST's FY 1990 appropriated level. For FY 1991, the Administration also requested $4.58 million for implementation of the activities of the Technology Administration, which represented an increase of $708,000 over the appropriated level of $3.88 million.

During the 101st Congress, the Committee on Science, Space, and Technology considered a series of bills related to these budget proposals which are described below: H.R. 3042; H.R. 4329; H.R. 5072; and S. 1191. If enacted, these bills would have authorized appropriations for the Department of Commerce's Technology Administration for FY 1991, and 1992, and several other initiatives important to U.S. technological competitiveness.

Summary of Hearings, FY 1991 Budget Request: On March 7, 8, and 23, 1989, the Science, Research and Technology Subcommittee held hearings on the FY 1990 budget and organization plans of the Department of Commerce's Technology Administration. On February 6, 21, 22, and March 8, 1990, the Science, Research, and Technology Subcommittee held hearings on the FY 1991 budget and policies of the Department of Commerce's Technology Administration.

On March 7, 1989, the Acting Under Secretary of Commerce for Technology discussed the initial organization plan for the Technology Administration. NIST's Acting Director and other NIST executives reviewed the status of the FY 1989 and FY 1990 NIST budgets. The Director of the NTIS reviewed modernization plans for that agency. Testimony also focused on the implementation of the

various laws from the 99th and 100th Congress which affected Technology Administration programs.

On March 8 and 23, 1989, testimony was received from non-federal witnesses invited to comment on the above issues, and on the anticipated impact of changes in the calibration or Standard Reference Materials fee policy, the fire and building research programs, the regional manufacturing technology centers, the Advanced Technology Program, the Technology Extension Services Program, and the impact of the Administration's other proposed program increases and decreases. Special attention was paid to how the Advanced Technology Program provisions could be made a focal point for government cooperation with private sector joint ventures.

On February 6, 1990, testimony was presented by the Honorable Thomas Murrin, Deputy Secretary of Commerce, and the Chairman of the Visiting Committee on Advanced Technology, Dr. Arden L. Bement. Mr. Murrin described the Department's efforts to coordinate technology policy throughout the Department and to aid small and medium-sized U.S. businesses wishing to become more technologically sophisticated. Mr. Murrin also emphasized the need for quality improvement in American manufacturing, paying special attention to the success of the Malcolm Baldrige National Quality Award. He also discussed the initial efforts of the Advanced Technology Program. Dr. Bement presented the Visiting Committee's recommendations regarding NIST's policies, organization, budget, and programs.

On February 21, 1990, non-federal witnesses presented their reactions to the Administration's FY 1991 budget request for NIST. Testimony was received from representatives of the National Academy of Sciences (NAS) Review Panel for NIST, academia, and programs which the Administration has proposed to reduce or eliminate funding. The witness from the NAS Review Panel noted that NIST's progams provided benefits to industry, academia, and government and such benefits resulted in savings which greatly surpassed the NIST budget. However, he cautioned that NIST's broadened scope of activities under Public Law 100-418 must not be permitted to diminish NIST's traditional activities in standards and metrology. The witness from academia was a member of an academic panel that had examined U.S. competency in manufacturing and recommended improvements. His testimony summarized the findings of that panel. The other witnesses, representing producers of alternative refrigerants, scientists working on evaluation of non-energy related inventions, and the Regional Manufacturing Technology Centers opposed the Administration's proposed reductions for these programs.

On February 22, 1990, the Director of NIST presented the Administration's point of view. Testimony centered on the rationale for the Administration's changes in NIST programs for FY 1991, the implementation for the programs established at NIST by Public Law 100-418, NIST's progress in carrying out its responsibilities under the Computer Security Act of 1987 (P.L. 100-235), lessons learned from the NIST personnel experiment, and the appropriate role for NIST in international standards.

On March 8, 1990, testimony was received from the Deputy Director of the Technology Administration, the Director of the NTIS,

and the Assistant Secretary for Technology Policy. They reviewed the steps taken to bring together Departmental technology functions as called for in Public Law 100-418 and to implement NTIS modernization as set forth in Public Law 100-519.

Legislative History

H.R. 3042, the Department of Commerce Research and Technology Authorization Act for Fiscal Years 1990, 1991, and 1992, was introduced on July 27, 1989. On July 28, 1989 the Subcommittee on Science, Research and Technology met to consider H.R. 3042. After discussion of the bill, and a quorum being present, the Subcommittee ordered an amendment in the nature of a substitute to H.R. 3042 reported to the Committee on Science, Space, and Technology by voice vote.

S. 1191, the Technology Administration Authorization Act of 1989, a companion bill to H.R. 3042, was introduced in the Senate on June 25, 1989. The Senate Committee on Commerce, Science, and Transportation held a hearing on July 25, 1989 and ordered S. 1191 reported, with an amendment in the nature of a substitute, on August 1, 1989. On October 26, 1989, S. 1191 passed the Senate under unanimous consent with one additional amendment, by voice vote.

Following the mark-up by the Subcommittee on Science, Research and Technology, various Members of the Committee proposed expanding H.R. 3042 into a more comprehensive measure to address the status of U.S. technological competitiveness in the world marketplace. A series of related hearings were held by the Committee on Science, Space, and Technology and the Subcommittee on Science, Research and Technology. As a result of those hearings, and using the text of H.R. 3042 as a base, H.R. 4329, the American Technology Preeminence Act, was introduced by Chairman Roe with most of the Members of the Committee as cosponsors. The new titles included in H.R. 4329 created a Presidential Commission on Reducing Capital Cost for Emerging Technology, a National High Performance Computer Technology Plan, a Presidential Commission on Procurement and Technology, and a High Resolution Information Systems Board. It also made numerous statutory changes including those related to antitrust law and joint manufacturing, and commissioned several other studies related to U.S. industrial competitiveness. The Committee met on March 21, 1990 to consider H.R. 4329. After discussion of H.R. 4329, a quorum being present, the Committee ordered the bill, as amended by an amendment in the nature of a substitute, reported by a vote of 49 to 0. During floor consideration of H.R. 4329 on July 11, 1990 the antitrust amendments were deleted to accommodate the Committee on the Judiciary, and a number of other changes were made to meet concerns of the Committee on Energy and Commerce; H.R. 4329 passed the House by a vote of 327 to 93. The House-passed text of H.R. 4329 was also substituted for the Senate-passed text of S. 1191. S. 1191 was also passed by the House on July 11, 1990, by voice vote, and was returned to the Senate.

The Senate did not appoint conferees to resolve differences between the House and Senate versions of S. 1191. The leadership of the House Committee on Science, Space, and Technology and the

Senate Committee on Commerce, Science and Transportation proceeded to work out differences and arrived at a compromise text on all titles of S. 1191, except for high performance computing. The Senate did not appoint conferees and the informal compromise was not cleared for a vote in the Senate. Committee Publication Numbers 101-16, 101-67, and 101-109, H. Rept. 101-481 Part 1.

2.20—AIRPORT SECURITY TECHNOLOGY AND RESEARCH ACT OF 1989 (H.R. 2365)

Summary and Background of Legislation

The purpose of H.R. 2365 is to amend the Airport and Airway Improvement Act of 1982, as amended, to (1) support cost-effectiveness and operational feasibility evaluations of alternative explosives detection systems of possible implementation at airports, and (2) promote accelerated research and development of future explosives detection technologies for use in airports.

The recent crash of Pan American Airways flight 103 illustrated once again the risk to airline passengers from criminal acts. Since 1976 the Federal Aviation Administration (FAA) has conducted a modest program aimed at developing automated equipment to screen passengers, baggage and cargo for concealed explosives and weapons. These efforts have produced some near-term technologies that have been tested in airports and will be implemented, starting this year; and other long-term concepts that will be needed for future threats and will require further research.

Legislative History

H.R. 2365, was introduced by Mr. McCurdy on May 16, 1989. The bill was referred jointly to the Committees on Public Works and Transportation, and Science, Space, and Technology and was subsequently referred to the Subcommittee on Transportation, Aviation and Materials.

The Subcommittee had already previously conducted a hearing on the status of FAA research and future plans for airport security on February 9, 1989.

On May 31, 1989 the Transportation, Aviation and Materials Subcommittee ordered the bill reported.

On July 26, 1989, the Committee on Science, Space, and Technology ordered reported by voice vote, a quorum being present, the Airport Security Technology and Research Act of 1989, H.R. 2365 with an amendment.

On September 25, 1989, H.R. 2365 was brought to the floor of the House under suspension of the Rules and was amended and passed the House by the roll call vote of 390 ayes to 0 nays. Committee Publication Number 101-19, House Report 101-246

2.21—ELECTRIC VEHICLE TECHNOLOGY AND COMMERCIALIZATION (H.R. 3852)

Summary and Background of Legislation

The purpose of H.R. 3852 is to require the Secretary of Energy to carry out a program for purposes of accelerating the development and demonstration of electric vehicle technology.

Because of the Persian Gulf situation, there is heightened awareness of the need for alternatives to petroleum. Nowhere is this need greater than in transportation which accounts for approximately 63 percent of all petroleum used in the United States. Also driving the need is a resurgence of concern about air quality.

A technology long viewed as having high potential for addressing both foreign petroleum dependence and air quality deterioration is the electric vehicle. The Science, Space, and Technology Committee was among those who first recognized this, passing the Electric and Hybrid Vehicle Act of 1976. The Act called for a long term program to develop technologies for the electric vehicle. In response, the Department of Energy began an ambitious effort in battery research, component development demonstration and market stimulation. Much of this activity, however, was eliminated when the Reagan Administration took office. The result has been very little progress toward the goal of a practical electric vehicle.

Legislative History

H.R. 3852, was introduced by Mr. Brown of California on January 23, 1990. The bill was referred jointly to the Committees on Energy and Commerce, and Science, Space, and Technology and was subsequently referred to the Subcommittee on Transportation, Aviation and Materials which held a hearing on September 25, 1990.

Provisions included in H.R. 5521, National Energy Strategy Act. Committee Publication Number 101-162.

2.22—THE MAGNETIC LEVITATION TRANSPORTATION AND COMPETITIVENESS ACT OF 1990 (H.R. 4549)

Summary and Background of Legislation

The purpose of H.R. 4549 is to establish programs to promote the development and construction of magnetic levitation transportation systems and to establish a Magnetic Levitation Transportation Administration in the Department of Transportation (DOT).

The bill establishes within the Department of Transportation a new Magnetic Levitation Transportation Administration to lead and coordinate federal efforts to develop a mag-lev system in the U.S. The legislation further calls for a national "competition" for research and development of a design for a mag-lev transportation system. Up to six grants are to be awarded for a period of up to three years from which a single design is to be selected by the Administrator for a mag-lev system. This winning system is to be constructed through a grant awarded following the competition. The bill further calls for conducting a study to determine the feasibility of and need for adopting a standard for the construction of the construction of guideways for magnetic levitation transportation systems. The bill authorizes $350 million for the R&D competition. Up to $600 million may be awarded for the construction of the system selection in the competition.

Legislative History

H.R. 4549 was introduced by Mr. Mrazek on April 18, 1990, and was referred jointly to the Committees on Energy and Commerce;

Science, Space, and Technology; and Public Works and Transportation. It was subsequently referred to the Subcommittee on Transportation, Aviation and Materials and a hearing was held on June 7, 1990.

On August 3, 1990, H.R. 5535, to establish a program of research and development on Magnetic levitation transportation, and for other purposes, was introduced by Mr. Torricelli, and referred solely to the Committee on Science, Space, and Technology.

On October 21, 1990, Conferees from the Science, Space, and Technology Committee were appointed on provisions relating to wetlands and magnetic levitation in S. 2740, the Water Resources Development Act of 1990 (Sec. 309/Sec.13).

S. 2740 passed the House and Senate on October 27, 1990 and was cleared for Presidential signing. (See Public Law 101-640, Chapter 1 of this report.) Committee Publication Number 101-128.

2.23—AVIATION TRAINING RESEARCH ACT OF 1990 (H.R. 4950)

Summary and Background

The purpose of H.R. 4950, is to authorize the Federal Aviation Administration to conduct research, development, and demonstrations of alternative technologies and methodologies for enhancing the training of air traffic controllers and electronic maintenance technicians while reducing the costs to the Federal Government.

The bill was introduced by Mr. Torricelli on May 24, 1990 and referred solely to the Committee on Science, Space, and Technology. It subsequently was referred to the Subcommittee on Transportation, Aviation and Materials and a hearing was held on June 21, 1990. Committee Publication Number 101-127.

2.24—ANTARCTIC MINERAL POLICY (H.R. 4514)

Summary and Background of Legislation

The purpose of H.R. 4514 is to require action to protect Antactica by directing the Secretary of the Interior to prepare a plan for establishing an Antarctica World Park, to require interim protection of Antarctica, and for other purposes.

Antarctic minerals and resource development have been of long standing concern to the scientific, as well as public policy community. In recent years, the U.S. and other nations with substantial interests in the region have increasingly begun to address these concerns. As result of an eight year process, the U.S. together with some other nations in 1988 signed the Convention on Regulation of Antarctic Mineral Resource Activities (CRAMRA). This treaty, outling the means for regulating exploration and development of Antarctic minerals, now requires Senate confirmation. In addition to the treaty itself, comprehensive, implementing legislation is also likely to be introduced.

Legislative History

H.R. 4514, was introduced by Mr. Vento on April 4, 1990. The bill was referred jointly to the Committees on Interior and Insular Affairs; Merchant Marine and Fisheries; Science, Space, and Technology; and Foreign Affairs. It was subsequently referred to the Sub-

committees on International Scientific Cooperation, and Transportation, Aviation and Materials.

On July 12, 1990, the Subcommittees on Transportation, Aviation and Materials and Science, Research and Technology held a joint hearing. Committee Publication Number 101–154.

2.25—THE SUPERCONDUCTING SUPER COLLIDER PROJECT AUTHORIZATION ACT OF 1990 (H.R. 4380)

To authorize funds for the project; to authorize the Secretary of Energy to enter into arrangements for the research and development, design, construction and operation of the project; to seek commitments of support from international and non-federal sources, and to establish policies and guidelines for funding of contributions and contracting related to construction of the Superconducting Super Collider (SSC).

Summary and Background of Legislation

H.R. 4380 authorizes funding by the federal government in the amount of $5.0 billion for completion of construction of the SSC and specifies that all other funding come from non-federal sources. Authorization of funds in these steps is provided subject to specified conditions and limitations. In the first step, $220 million are authorized for initial research and development for magnets, the preproduction phase and facility design. In the second step $1.17 billion are authorized upon completion of specified planning documents, completion of the prototype magnet design, and certification that industry can begin prototype magnet production. In the final step, $5.98 billion are authorized for completion of the construction upon certification by the Secretary of Energy of successful completion of an in-situ magnet test. All authorized funding amounts are for use of both federal funding and non-federal contributions. The bill sets the State of Texas contribution at not less than $1 billion and does not provide refund provisions. In addition, the international contributions of between 20 and 33½ percent of total project cost must be attained. The bill limits the award of contracts to domestic firms and to foreign firms from countries contributing to SSC. There is also a 50 percent limit on the foreign manufacture of any major systems for the SSC.

The Bill requires General Accounting Office (GAO) evaluation and DOE certification that the project can be completed without exceeding the $5 billion federal limit before the third authorization step can be enacted. Ten percent of the Federal funding for the project is to be made available for minority business.

The Bill also contains a number of special provisions related to policy and organization:

Section 4 authorizes a new position, the Director of the Office of the Superconducting Super Collider at the Department of Energy reporting directly to the Secretary; an on-site project office is also authorized.

Section 6 establishes a fund for cash contributions to the project.

Section 10 specifies reporting requirements to the Authorizing Committees.

Legislative History

The Committee on Science, Space, the Technology began oversight of the SSC concept in 1983. The Subcommittee on Energy Development and Applications (EDA) subsequently conducted oversight hearings in 1984, 1985, 1986, and 1987. The Committee's Task Force on Science Policy held hearings on international cooperation in science in 1985 at which the SSC was discussed. Subsequently, the Subcommittee on International Science Cooperation held hearings in 1987 and 1988. The Subcommittee on Energy Research and Development held budget hearings on the SSC in 1988 and 1989.

The Committee held hearings on the project site selection in 1988, and later that year, H.R. 4505 authorizing $147 million in FY 1989 was reported favorably to the House. On June 3, 1988, H.R. 4505, as amended in the Committee of the Whole passed the House.

On March 28, 1990, H.R. 4380, the SSC Project Authorization Act of 1990, was ordered reported from the Committee, as amended. On May 2, 1990, H.R. 4380 passed the House by a roll-call vote of 309 ayes to 109 nays. No action on the bill was taken by the Senate. Committee Publication Numbers 101-13, 1091-15, H. Rept. 101-448.

2.26—THE DOE URANIUM ENRICHMENT ENTERPRISE REORGANIZATION ACT (H.R. 2480)

To maintain a competitive, financially strong, and secure uranium enrichment capability in the United States by reorganizing the Uranium Enrichment Enterprise, and for other purposes.

Summary and Background of Legislation

H.R. 2480 provides for the creation of a government corporation to assume the management and operation of the DOE's Uranium Enrichment Enterprise. The original proposal was drafted by the DOE. The legislation would restructure the management organziation and permit more flexible operating procedures allowing the enterprise to react in a more timely and effective manner to changes in the marketplace.

The market position of the DOE enrichment enterprise has been deteriorating for several years and is approaching crisis levels. Once a free world monopoly for providing services, today the enterprise retains only 45 percent of the world market. Domestic customers have announced terminations of their long-term contracts (consistent with the provisions in the contracts) beginning in 1996. The numbers of terminations increase with each subsequent year. (Long-term contracts require a ten-year notification without penalties.)

For the April 1, 1990 notification date, the DOE suspended requirements to notify the Department of its customers' plans, postponing notice for the year 2000. Nevertheless, several domestic utilities proceeded to announce termination of their long-term contracts.

While long-term commitments are being terminated, utilities also have the option of five-year notifications for 30 percent of their requirements. These cancellation options are also being exercised.

The primary complaints of the DOE customers include uncompetitive prices; uncertain management practices and goals; inabil-

ity to respond to individual customer needs; and institutionally rigid business practices.

The primary provisions of the legislation would: establish a government-owned corporation; establish the management structure including the board of directors; management responsibilities; provide for the capital structure of the corporation and the transfer of assets, facilities and technologies; provide direction regarding Nuclear Regulatory Commission licensing, and create a Decontamination and Decommissioning Fund with defined responsibilities and accountability. The further intent of the legislation is to grant the newly formed enrichment corporation the flexibility to make and execute business decisions in a timely, market-responsive manner.

In its support of this legislation, the DOE commissioned a study of the uranium enrichment enterprise, which analyzed the performance of the enterprise under a number of varying market, production and organizational variables. The investment firm of Smith Barney, Harris Upham & Company, Inc. performed the independent financial assessment.

Legislative History

H.R. 2480, the Uranium Enrichment Reorganization Act, was introduced by Energy Research and Development Subcommittee Chairman Lloyd, at the Administration's request, on May 24, 1989. It was jointly referred to the Committees on Science, Space, and Technology, Energy and Commerce, and Interior and Insular Affairs.

The Subcommittee on Energy Research and Development held hearings on July 26, 1989, and October 19, 1989. At the July 26th hearing, testimony was received from Senator Wendell Ford, Representatives McEwen and Hubbard, and General Accounting Office, the Edison Electric Institute, the American Nuclear Energy Council, Martin Marietta Energy Systems, Inc., Duke Power Company, and the DOE. At the October 19th hearing, witnesses represented the National Taxpayers Union, the Florida Public Service Commission (representing the National Association of Regulatory Utility Commissioners) the Uranium Producers of America, and the National Academy of Public Administration.

The hearings focused on the feasibility of establishing a separate government corporation to conduct the uranium enrichment activities in a more businesslike manner than is now possible under the restrictions applicable to the DOE today. Key issues identified in the hearings centered on previous government investment and possible requirements for some repayment to the Treasury; fees or other mechanisms for funding decontamination and decommissioning (D&D) activities; various technical questions regarding remedial action at operating plants; activities for the shutdown plant; borrowing authority; taxpayer risk from development of advanced technology, and the treatment of the Atomic Vapor Laser Isotope Separation (AVLIS) research and development program.

On July 11, 1990, the Subcomittee held a hearing on the Independent Financial Assessment of the Uranium Enrichment Enterprise, a report on the previously mentioned study conducted by the investment firm of Smith Barney, Harris Upham & Compnay, Inc. (commonly known as the Smith Barney Report). Witnessees repre-

sented the DOE (which commissioned the report) and Smith Barney.

Although the DOE disagreed with some assessments and recommendations of the report concerning AVLIS, both the DOE and Smith Barney recommended a government corporation as a first step toward privatizing the enrichment enterprise. Both the DOE and Smith Barney stressed an urgency for Congress to act, in order that the enterprise may salvage its existing customer base and be stable and sound in the 1995–96 timeframe to meet increased competition and more aggressively trade in the spot market. Both also stressed the need for creation of the D&D Fund to start collecting revenues for impending D&D activities.

On July 20, 1990, the Subcommittee held a markup. Chairman Lloyd offered an amendment in the nature of a substitute which was approved and forwarded to the Committee for consideration.

On October 11, 1990, the Committee held a hearing on H.R. 2480 as amended. Testimony was received from the DOE, Smith Barney, National Taxpayers Union, Martin Marietta Energy Systems, Inc., the Edison Electric Institute, and an energy trade consultant. Committee Publications Numbers 101–91; 101–161.

2.27—RENEWABLE ENERGY/FUEL CELL SYSTEMS INTEGRATION ACT OF 1989 (S. 633)

The Act seeks to promote the development of technologies which will enable fuel cells to use alternative fuel sources.

Summary and Background of Legislation

A fuel cell is an electro-chemical device that operates by combining a hydrogen-rich gas with air and converts the chemical energy directly into electricity. Advantages of fuel cells include high efficiency rates, low environmental impacts, and fuel flexibility. In addition, their modular design allows increased output capability by stacking.

The bill directs the Secretary of Energy to implement and carry out a research program that will enable fuel cells to use alternative fuel sources such as methane from biomass, wind energy, and solar energy. The bill authorizes $5 million for fiscal year 1990 to carry out the purposes of the Act.

Legislative History

S. 633, the Renewable Energy/Fuel Cell Systems Integration Act of 1989, was introduced on March 16, 1989 by Senator Matsunaga. The bill was referred to the Senate Committee on Energy and Natural Resources. The Committee voted out the bill on June 7, 1989 by a roll call vote of 18–0. The Senate passed the bill by Unanimous Consent on June 23, 1989. The bill was referred to the Committee on Science, Space, and Technology on June 28, 1989.

On March 21, 1990, the Subcommittee on Energy Research and Development held a hearing on S. 633. Testimony was received from the DOE, the Gas Research Institute, the Institute of Gas Technology, the Electric Power Research Institute and the Fuel Cell Association. Committee Publication Number 101–125.

2.28—THE INTER-AMERICAN SCIENTIFIC COOPERATION ACT OF 1989 (H.R. 2152)

The purpose of this legislation is to re-invigorate cooperation between the United States and Latin America in science and technology.

Background and Summary of Legislation

The major feature of H.R. 2152 is the creation of an Inter-American Scientific Cooperation Program within the National Science Foundation, with the following program elements:

Joint research projects
Graduate and post-doctoral fellowships in both directions
Establishment of computer linkages
Routing of scientific equipment
Promotion of research programs which utilize unique natural environments, such as the Darwin Research Center in the Galapagos Islands

Creative financing mechanisms such as "debt-for-science" swaps are encouraged, and the Program is structured to give priority to the development of scientific infrastructure in the participating Latin America nations. The program would be authorized at $25 million from existing NSF funds authorized under Public Law 100–570 for the fiscal years 1991, 1992, and 1993.

The need for the legislation arises from the fact that the political and economic turmoil of the past two decades has weakened the scientific infrastructure of many Latin American countries. Further, in recent years, opportunities for science and technology cooperation between the United States and Latin America have decreased (as many Latin American countries have graduated from S&T programs operated under the Agency for International Development), Latin Americans have looked more frequently to Europe and Japan for advanced training and research. These trends highlight the need to re-invigorate inter-American scientific cooperation.

The legislation became timely during the 101st Congress for a number of reasons, not the least of which is the increased political stability of the region. In addition, there has been a strong re-emergence throughout Latin America of both a greater reliance on market mechanisms and an appreciation of the role of science and technology in economic development. Finally, the emergence of creative debt-swap mechanisms gives added flexibility to the actual conduct of S&T exchanges.

Legislative History

In the 100th Congress, the Subcommittee on International Scientific Cooperation held hearings on "U.S./Latin American Cooperation in Science and Technology" (July 30, 1987). The following January, Chairman Roe and Ranking Republican Member Lujan led a Committee oversight visit to review S&T cooperation with Brazil, Chile, Argentina, Ecuador, and French Guinea.

On April 27, 1989, H.R. 2152 was introduced by Mr. Roe and Mr. Hall, and on May 2, 1989, the Subcommittee on International Scientific Cooperation held a hearing on the bill. The National Sci-

ence Foundation witness stated that the Administration supported the aims of the bill and did not object to implementing any of the programs specified in the legislation. However, for budgetary reasons, he fell short of actually endorsing the bill. Private witnesses endorsed the bill strongly, one noting that it would end "fifteen years of disregard" in the U.S. toward inter-American scientific relations.

On April 4, 1990, the Subcommittee on International Scientific Cooperation reported H.R. 2152 with en block amendments. The Subcommittee on Science, Research, and Technology reported the bill with identical amendments the next day. On April 18, 1990 the full Committee ordered the bill reported by unanimous voice vote, with two additional amendments. One added a definition of the term "Latin America", while the other provided that not more than 25 percent of the funds available for NSF's International Cooperative Scientific Activities shall be used for carrying out the provisions of H.R. 2152.

On June 12, 1990, H.R. 2152, as ordered reported by the Committee, passed the House under suspension of the rules by unanimous voice and was sent to the Senate, where it was referred to the Committee on Labor and Human Resources. A companion bill (S. 2733) was also introduced and referred to the Senate Committee on Commerce, Science, and Transportation. Although five members of the Senate ultimately sponsored S. 2733, the Senate took no further action on either bill in the 101st Congress.

2.29—AVIATION RESEARCH GRANT ACT OF 1989 (H.R. 2581)

To authorize the Federal Aviation Administration to establish an aviation research grant program.

Summary and Background of Legislation

The purposes of H.R. 2581 are as follows: (1) to enhance the Federal government's access to university research capabilities and products by granting the Federal Aviation Administration the authority to award single and multiyear research grants to colleges, universities, and nonprofit research organizations, and (2) to authorize the establishment of "Centers of excellence" for research into aviation-related areas of unique interest to the Federal Aviation Administration which are not adequately sponsored by the aviation industry, and (3) to create a pool of technical professionals trained in aviation-related research areas of unique interest to the Federal Aviation Administration and the aviation community.

In the past the FAA was perceived as not needing an independent research capability because of its operational mission. However, the sophistication of the aviation industry, as well as the importance of that industry to the national economy, has reached a level where the FAA can keep pace only through continued efforts at enhancing the operational efficiency of the National Airspace System (NAS). This includes enhancements in airport capacity, air traffic control, aircraft safety, and airport security. Because of the specialized nature of the FAA functions, enhancements are often not available through the commercial marketplace or other govern-

ment agencies and the FAA must sponsor research into NAS system enhancements itself.

Legislative History

H.R. 2581, was introduced by Mr. Valentine on June 7, 1989, and was referred solely to the Committee on Science, Space, and Technology, which in turn referred it to the Subcommittee on Transportation, Aviation and Materials. The Subcommittee requested comments from several academic institutions. Their comments were translated into three of the amendments offered by the Chairman at the Subcommittee markup. No negative comments were received.

The Subcommittee markup was held on October 4, 1989. A total of five amendments were offered and adopted. H.R. 2581 was forwarded to the Committee with amendments.

On October 19, 1989, the Committee on Science, Space, and Technology marked up the H.R. 2581. The Committee ordered the bill reported with an amendment in the nature of a substitute by voice vote. The legislative report was filed in the House on October 30, 1989 (H. Rept. 101-320)

On November 17, 1989, H.R. 2581 passed the House under suspension of the Rules by voice vote. On November 22, 1989 the bill was referred to the Senate Committee on Commerce, Science and Transportation.

Provisions of H.R. 2581 were incorporated into Title X of H.R. 5835, the Omnibus Budget Reconciliation Act of 1990, Public Law 101-508 (See Chapter I of this report). Committee Publication Number House Report 101-320.

2.30—FAA RESEARCH, ENGINEERING AND DEVELOPMENT AUTHORIZATION ACT OF 1990 (H.R. 4949, H.R. 5170, H.R. 5835)

Summary and Background of Legislation

The purpose of H.R. 4949 is to amend the Airport and Airway Improvement Act of 1982 to authorize appropriations for aviation research, engineering and development, and demonstrations for FY '91 and '92, and for other purposes.

The Subcommittee on Transportation, Aviation and Materials is the House authorizing body for the Research, Engineering and Development (RE&D) component of the Federal Aviation Administration (FAA) operating budget. The funding for the RE&D budget is derived totally from the Airport and Airway Trust Fund. The reauthorization of the Trust Fund is required for the FY 1991 budget.

Legislative History

H.R. 4949 was introduced by Mr. Torricelli on March 24, 1990. The bill was solely referred to the Committee on Science, Space, and Technology and retained at the Committee level.

On April 24 and 26, 1990, the Subcommittee on Transportation, Aviation and Materials held hearings prior to introducing of H.R. 4949. The Subcommittee met for a markup meeting on May 22, 1990 and ordered the bill to be introduced reflecting the recommendations of the Subcommittee, for Committee consideration.

On June 13, 1990, the Science, Space, and Technology Committee held a markup meeting and ordered the bill reported with amendments.

On July 19, 1990, text of H.R. 4949 became Title III of H.R. 5170, the Aviation Safety and Capacity Expansion Act. On August 2, 1990, H.R. 5170 passed the House.

Title III of H.R. 5170 became part of H.R. 5835, the Budget Reconciliation Act of 1990, which was agreed to on October 27, 1990, and signed by the President on November 5, 1990. (See Public Law 101-508, Chapter I of the report.) Committee Publication Number 101-148, House Report 101-585.

2.31—AIRCRAFT ACCIDENT PREVENTION, H.R. 4887, H.R. 3555, H.R. 5835

Summary and Background

The purpose of H.R. 4887 and H.R. 3555 is to amend the Federal Aviation Administration (FAA) Act of 1958 relating to research for prevention of defects, failures, and malfunctions of aircraft, aircraft engines, propellers, and appliances, which could result in a catastrophic failure of an accident.

Legislative History

The Subcommittee on Transportation, Aviation and Materials held a hearing on March 8, 1990 on H.R. 3555, a bill introduced by Mr. Lewis of Florida, and held a markup meeting on April 4, 1990 which passed by voice vote an amendment in the nature of a substitute.

H.R. 4887, Transportation and Travel, Aviation, Aircraft Catastrophic Failure Prevention Research Act of 1990, a clean bill, was introduced by Mr. Lewis of Florida on May 23, 1990 and was referred solely to the Committee on Science, Space, and Technology and was retained at the Committee level.

On May 23, 1990, the Committee held a markup meeting on H.R. 4887 and ordered the bill reported with technical amendments.

On June 12, 1990, H.R. 4887 was passed by the House under suspension of the rules. No action was taken by the Senate.

Modified provisions of H.R. 4887 were incorporated into H.R. 5835, the Omnibus Budget Reconciliation Act of 1990, which was agreed to on October 27, 1990, and signed by the President on November 5, 1990. (See Public Law 101-501, Chapter I of this report.) Committee Publication Number 101-106, House Report 101-521.

CHAPTER III—OVERSIGHT, INVESTIGATIONS AND OTHER ACTIVITIES OF THE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY, INCLUDING SELECTED SUBCOMMITTEE LEGISLATIVE ACTIVITIES

3.1—COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

3.1(a)—Results of the Flights of the Space Shuttle Missions STS-29, STS-34, STS-32, and STS-31

STS-29—On April 12, 1989 the Committee held a hearing to pay tribute to and hear the experiences of the crew of Space Shuttle Discovery flight 29. Commander of the five-man crew was Michael L. Coats, Captain, USN. John E. Blaha, Colonel, USAF, was pilot of the mission. The crew also included three mission specialists: James F. Buchli, Colonel. USMC; Robert C. Springer, Colonel, USMC; and James P. Bagian, M.D.

Highlighting the 28th Space Shuttle misson was the deployment of the third Tracking and Data Relay Satellite (TDRS-D) which completed the Tracking and Data Relay Satellite System (TDRSS). TDRSS will increase communications, between Earth-orbiting spacecraft and a ground-based tracking station, from 15 to 85 percent per orbit and facilitate a much higher rate of data flow. The Orbiter Experiments Program Autonomous Supporting Instrumentation System (OASIS) was flown to record environmental data in the shuttle payload bay during flight phases. OASIS measured TDRS vibration, strain, acoustics, and temperature during launch ascent using transducers affixed directly to the payload.

In addition to TDRS-D and OASIS, Discovery carried the Space Station Heat Pipe Advanced Radiator Element (SHARE) in the payload bay. Several secondary payloads were carried in the middeck of Discovery, including the IMAX camera, two student experiments, a protein crystal growth experiment and a chromosome and plant cell division experiment. This mission was of particular importance as it also demonstrated the ability of the ground crews to overcome substantial technical problems and safety launch the Shuttle on time—as the Shuttle turbopumps had to be replaced at the last minute.

STS-34—On November 16, 1989, the Committee held a hearing to pay tribute to and hear the experiences of Space Shuttle Atlantis Flight 34 which deployed the Galileo planetary exploration spacecraft into low-Earth orbit, starting Galileo on its journey to explore Jupiter. Galileo is the most sophisticated planetary probe ever launched and it will be the first to actually orbit another planet. In December, 1995, a 737-pound probe released from Galileo is to plunge into the Jovian atmosphere. Scientific goals include the study of the chemical composition, state and dynamics of the Jovian atmosphere and satellites, and the investigation of the structure and physical dynamics of the powerful Jovian magnetos-

phere. Galileo is to study Jupiter for clues to the formation of the solar system.

Joining Galileo in the payload bay of Atlantis was the Shuttle Solar Backscatter Ultraviolet (SSBUV) instrument. The SSBUV is designed to provide calibration of backscatter ultraviolet instruments currently being flown on free-flying satellites. SSBUV's primary objective is to check the calibration of the ozone sounders on satellites to verify the accuracy of the data set of atmospheric ozone and solar irradiance data. Atlantis also carried several secondary payloads involving radiation measurements, polymer morphology, lighning research, mocrogravity effects on plants and a student experiment on ice crystal growth in space.

Launch preparations took place under the tightest security ever for a shuttle flight because of threats from activists opposed to Galileo's power-pack of plutonium-238. RTG's have been used by NASA for the exploration of the solar system for over two decades; in total, twenty-two missions launched by the United States have been powered by RTG's. Three groups challenged the launch in court, fearing an accident would spray plutonium over south Florida. A United States District Court judge ruled in favor of the government and denied the enactment of a temporary restraining order. The plaintiff's appeal of the decision was denied.

The Commander of the STS-34 mission was Donald E. Williams, Captain, USN. Michael J. McCulley, Commander, USN, piloted the Shuttle. Misson Specialists were Shannon W. Lucid, Ph.D.; Franklin R. Chang-Diaz, Ph.D; and Ellen S. Baker, M.D.

STS-32—On Febraury 28, 1990, the Committee held a hearing on the results of the Space Shuttle Mision STS-32.

One of the primary objectives of the mission was to recover the Long Duration Exposure Facilty, (LDEF), which had been in orbit for almost six years. In addition to the LDEF retrieval and the deployment of the SYNCOM 5 satellite, the Shuttle continues to prove its worth in carrying out manned experiments such as protein crystal growth and other life science experiments. This mission has the distinction of having the longest duration in crew time on orbit.

The principal witnesses at the hearing were: Daniel C. Brandenstein, Mission Commander; James D. Wetherbee, Pilot; Bonnie J. Dunbar, Mission Specialist; Marsha S. Ivins, Mission Specialist; David Low, Mission Specialist.

STS-31—On May 23, 1990, the Committee held a hearing on the Results of the Space Shuttle Misson STS-31.

The purpose of the hearing was to welcome the crew of the Space Shuttle Discovery and to celebrate the successful launch of the Hubble Space Telescope. The Hubble launch marks a major milestone for NASA and a historic event for the science community.

The following witnesses testified at the hearing: Loren J. Schriver, Mission Commander; Charles F. Bolden, Pilot; Steven A. Hawley, Mission Specialist; Bruce McCandless, Mission Specialist; and Kathryn D. Sullivan, Mission Specialist.

3.1(b)—Proposed Space Station Freedom Program Revisions

On October 31, 1989, the Committee held a hearing to review recent NASA proposals to revise the schedule and technical baseline for the Space Station Freedom program. In the latter months of 1989, NASA conducted a study at the Langley Research Center analyzing available options for rephasing the Space Station program. The proposed rephasing resulted in postponement of many projected milestones and completion dates, as well as delays and cancellations of several technologies, capabilities, and hardware elements. In addition, the rephasing will adversely affect commitments made to the Space Station international partners in various Inter-governmental Agreements and Memoranda of Understanding. Finally, the effect of these changes may result in increased operating costs that will strain the NASA budget in the years ahead.

Testimony was heard from NASA Administrator, Admiral Robert H. Truly, accompanied by William Lenoir, the Associate Administrator for the Office of Space Station who told the Committee that previously promised capabilities will still be actualized. The Committee expressed great discomfort with the proposed changes, stating that the rephased Station is very different from the Space Station they had convinced their colleagues to support. Specific changes, such as the deletion of a high pressure space suit, may seriously affect the cost and efficiency of operating the Space Station. Committee Publication No. 101-82.

3.1(c)—Space Station International Partners

On January 30, 1990, the Committee held a hearing on NASA's International Space Station Partners on recent program changes.

The purpose of the hearing was to examine the views of our international partners specifically related to design changes, potential delays in deployment, and escalating operational costs. The Committee also addressed the consultative process NASA uses to develop alternative designs and whether that process will have a long-term effect on the willingness of other nations to participate in future cooperative ventures with the U.S. such as the Moon/Mars mission and the Superconducting Super Collider. Finally, the Committee assessed the impact of the program changes on the political climate and budgetary support within the participating member states.

The international partners expressed concern when they were not asked to confer with NASA as the rephased Space Station proposal was developed in the summer of 1989. The partners interpret both the Intergovernmental agreements and Memoranda of Understanding as binding NASA to joint discussions when such program changes are undertaken, especially since delay in the launch of the European and Japanese modules may lead to additional costs for these partners. The partners also view the Station's budget instability as a great threat to the success of the program.

The following witnesses testified at the hearing: The Honorable Reimar Luest, Director General, European Space Agency; The Honorable Reinhard Loosch, Deputy Assistant Director for International Cooperation, Federal Ministry for Research and Technology, Federal Republic of Germany; The Honorable Jean-Marie Luton,

Director General of the National Center for Space Studies, Government of France; The Honorable Learco Saporito, Undersecretary for the University and for Scientific and Technological Research, Government of Italy; and The Honorable Akira Kubozono, Executive Director, National Space Development Agency of Japan.

As a result of this hearing, the Committee established a clearer understanding of the political environment underlying the Space Station International Agreements. In addition, the Committee identified several options that could mitigate the adverse effects of the Space Station redesign and could strengthen the basis for international agreements. Committee Publication Number 101-III.

3.1(d)—Extravehicular Activities on the Space Station

On March 29, 1990, the Committee held a hearing to review reported flaws in the Space Station that may lead to excessive requirements for extravehicular activity.

Over the past five years the Committee has expressed concern over NASA's inattention to planning for Space Station maintenance and operations. This inattention may have translated into design decisions that ultimately will make the Station difficult and costly to operate.

In October 1989, NASA initiated a study to determine the extent to which astronaut extravehicular activity would be required to maintain the Station. Preliminary results have been reported indicating that astronaut maintenance activities will be required before the Station is 70 percent complete. Furthermore, these results suggest that up to 2,200 hours per year would be required to replace and maintain the 5,700 pieces of malfunctioning equipment located outside the pressurized modules. This is equivalent to a two-man maintenance spacewalk every other day. Recently, NASA rephased the Space Station program and delayed several planned features including space suits for extravehicular activity.

The witnesses present at this hearing were: Dr. William B. Lenoir, Associate Administrator, office of Space Flight, NASA; Dr. William Fisher, Co-Chairman of the EVA Requirements Study Team, Johnson Space Center, NASA; Mr. Charles Price, Co-Chairman of the EVA Requirements Study Team, Johnson Space Center, NASA; Dr. D. Bryant Cramer, Space Station Program Office, NASA; Mr. David Walker, Space Station Assembly, Lyndon B. Johnson Space Center, NASA; and, Mr. Richard H. Kohrs, Director, Space Station Freedom Program, NASA.

Committee members were very concerned that Dr. Fisher had to go public with the credibility of the program because he found no one at NASA to listen to him. Members also felt that in light of NASA's increased EVA numbers, a high pressure space suit was in order to decrease the number of EVA prebreathe hours. The price tag for the proposed space suit was questioned and it was suggested that additional information should be provided for the hearing record. One member brought up the subject of Shuttle-C and mentioned that the Shuttle-C would cut EVA required assembly time on the Space Station by 40 percent. NASA officials held the position that consideration should be given to the Shuttle-C option as well as a space suit. Committee Publication No. 101-133.

3.1(e)—The Hubble Space Telescope Flaw

On July 13, 1990, the Committee held a hearing on the Hubble Space Telescope. The purpose of this hearing was to investigate the causes and impacts of the recently discovered problem with the optical system of the Hubble Space Telescope.

The witnesses were: Dr. John A. Bahcall, Professor of Astrophysics, Institute for Advanced Study; Dr. Robert Bless, Astronomy Department, University of Wisconsin; Dr. Hervey P. Stockman, Space Telescope Science Institute; and Dr. Goetz Oertel, President, Association of Universities for Research in Astronomy.

The hearing was divided into three panel sessions.

Panel I discussed the nature of the problem, which was identified as a spherical aberration of the telescope's primary mirror. Preliminary indications were that all of the science instruments would be degraded as a result of the problem, with the Wide Field/Planetary Camera most affected. The panel also discussed the testing that had been conducted on the telescope during its fabrication.

Panel II described the plans for the review of the Hubble problem by the Board of Investigation set up after the discovery of the spherical aberration. It was indicated that the null correctors used in the fabrication and testing of the mirror were considered to be potential sources of the problem and would be examined during the investigation.

Panel III addressed the impact of the spherical aberration on the scientific mission of the Hubble Space Telescope. It also identified the options for maximizing the remaining scientific capabilities, as well as potential ways of correcting the problem. The panel indicated that preliminary indications were that some useful science could still be done, but that a number of the initial scientific priorities for the telescope would be partly or completely unattainable without correction of the optical system.

The Committee expressed its concern that NASA thoroughly investigate the Hubble problem and understand how it could have arisen, from both a technical and a managerial standpoint, so that similar problems do not occur on the complex scientific space missions planned for the future. Committee Publication Number 101–156.

3.1(f)—FSX

On May 11, 1989, a Committee hearing was held to review the technology transfer issues associated with the recent agreement between the U.S. and Japan to co-develop and co-produce the Fighter Support-Experimental (FSX) aircraft. The hearing focused in part on the principles supporting the decision to transfer to Japan advanced aircraft technologies and know-how. The Committee also reviewed other co-development projects underway in the private sector to understand the broader implications of technology transfer activities between the U.S. and our allies who are also economic competitors. On May 1, 1989, the Administration officially notified Congress of the modified version of the FSX co-development project and allowed a 30-day Congressional review period. In light of the Congressional review period and the Committee's ongoing concern and involvement in the FSX project, this hearing provided testimo-

ny from expert government witnesses, including representatives from the Departments of Commerce, State, and Defense, and the Office of the Secretary of the Air Force. Committee Publication Number 101-62.

3.1(g)—The Effect of Changing Export Controls on Cooperation in Science and Technology

On May 16, 1990, the Committee convened a hearing on "The Effect of Changing Export Controls on Cooperation in Science and Technology." The Committee invited witnesses from the Departments of State, Commerce, and Defense and the Office of Science and Technology Policy, as well as from industry and universities, to testify on the way changes in export controls would affect U.S. competitiveness and international cooperation in science and technology.

The hearing came in the midst of sweeping reforms in the international export control regime by the Coordinating Committee on Multilateral Export Controls (COCOM). While the effect of these reforms on trade and military relations with the Eastern Bloc was widely debated, their effect on scientific and cooperation had not been addressed in depth until the hearing. In addition to reviewing status of discussions within COCOM, the Committee considered the following issues:

1. How would a less restrictive export control regime effect the competitiveness of U.S. high-technology industries?
2. How would a less restrictive export control regime affect the willingness and ability of the U.S. to engage in cooperative S&T with the Eastern Bloc?
3. How would a less restrictive export control regime affect U.S. regulation of scientific communication with nations of the Eastern Bloc?
4. What steps should the U.S. take, if any, to increase the flow of Eastern Bloc scientific to the U.S.?
5. How might the U.S. use cooperation in S&T as a "carrot" to encourage political change in Eastern Europe?

3.1(h)—High Definition Television

Background

High definition television (HDTV) is regarded today as one of the most important technological advances in the communications industry since the advent of television itself. HDTV presents a much sharper and clearer image than current television technology, images that are as fine as 35 millimeter film. However, HDTV is not limited to improved resolution clarity, and color parity in a television image, or large television sets. This advanced technology has the potential to open new and expanded markets for the components of advanced television systems (such as semiconductors, fiber optics, and flat screen displays), and to enhance the integration of the television and computer industries.

In the opinion of some individuals, HDTV represents the last chance for the U.S. to revive the consumer electronics industry. In the 1970's, our competitive edge in that industry was lost to the

Japanese and others. Today, there is only one wholly owned American company in the television industry. Concerns have been expressed that if the U.S. does not immediately capture the HDTV market, the U.S. will lose that industry and all of its ancillary markets to foreign competitors. Others maintain that the status of the U.S. electronics industry and HDTV-related research and development is not lagging behind that of foreign competitors.

Research and development activities in the field of HDTV, both at home and abroad, have escalated over the past two years. In the U.S., governmental and private industry groups have been formed to address U.S. weaknesses in HDTV technology. In August 1988, President Reagan signed the Omnibus Trade and Competitiveness Act of 1988 into law (P.L. 100–418). Section 5131 of the Act established an Advanced Technology Program in the Department of Commerce to provide technical and financial support to industrial joint ventures promoting advanced technology in industries facing intense foreign competition. In October 1988, the Secretary of Commerce established an Advisory Committee on Advanced Television with representatives from industry, university, and other government agencies to help develop an HDTV policy. The Defense Advanced Research Project Agency (DARPA) announced, in December 1988, its intention to award $30.0 million for research in HDTV technology, selecting from among 85 U.S. and foreign applicants. In the spring of 1989, five contracts were awarded.

Meanwhile, in January, 1989, the American Electronics Association (AEA) announced that 17 companies had agreed to consider forming a partnership to develop HDTV technology. By March of 1989, this group had grown to include more than 30 companies, and the AEA had hired a private consulting group to draft an HDTV business plan; the plan was released in June of 1989. A bipartisan HDTV Caucus was formed by Members of Congress. A number of legislative proposals concerning HDTV have been introduced, including one that would authorize funding for HDTV research through the Department of Commerce's Advanced Technology Program within the National Institute of Standards and Technology.

The Japanese have been working on analog HDTV for two decades and are prparing for direct broadcast satellite transmission HDTV by 1990. The European Community demonstrated a viable HDTV system in September of 1988, after an investment of $175.0 million and recently formed a government/industry corporation to market their version of HDTV.

Summary of Hearing

The Committee on Science, Space, and Technology held a hearing on High Definition Television on March 23, 1989. The objectives of the hearing were to assess: 1) the role, if any, the government should play in industry-led initiatives in pursuing HDTV technology; 2) barriers that may exist to the commercial success of the American HDTV industry; and 3) developments U.S. participants pursuing HDTV technologies should undertake to ensure competitiveness and technological leadership. Witnesses included representatives from the Department of Commerce, DARPA, private industry, and academia.

Testimony provided a variety of alternatives for enhancing the advancement of HDTV and the competitive position of related U.S. industries. Witnesses discussed several policy alternatives, including government assistance by means of grants or loans and favoring U.S. companies in government procurement of related systems; others preferred relaxation of anti-trust laws and lower taxes on investments. Many argued that government cooperation and encouragement were essential for U.S. industries to reenter the television market, in light of past history. The Administration witness expressed the view that the relative positions of the U.S. and Japan in the HDTV arena, were similar and that government assistance, if necessary, should follow industry-led policy. The hearing also included a demonstration of a fiber optic screen and a HDTV process specifically designed for a cable TV system. Committee Publication Number 101-12.

3.1(i)—Science and Mathematics Education

Background

Our Nation's prosperity ultimately depends on scientific and technological knowledge. The attainment of the knowledge and its transformation into useful products requires an educated and scientifically literate population. Unfortunately, recent evidence indicates that unless we improve the dismal state of science and mathematics education we will be unable to meet our future manpower needs.

In a study of science achievement of students in grades 5, 9 and 12 in 17 countries, conducted by the International Association for the Evaluation of Educational Achievement, American students scored poorly compared to students in the other countries. Our fifth grade students placed eighth, while our ninth and twelfth grade students scored progressively worse. Similar results were obtained in another study by the Education Testing Service that compared the performance of 13 year olds in five countries and four Canadian Provinces. Even our top students scored poorly in these surveys: the top 1% of U.S. algebra students scored the lowest of students from 13 countries.

In addition to generally poor preparation, the proportion of students that is interested in pursuing careers in science and engineering is decreasing at a time when the size of the college-aged population is declining by about 25%. From 1966 to 1989, college freshmen planning to major in biological sciences, engineering, physical sciences and mathematics fell about 21 to 14%. This trend combined with the fact that the majority of the new entrants into the workforce in 2020 will be composed of women and minorities, two groups that traditionally have been under-represented in science and math, indicate that our Nation may face a serious shortage in our scientific and technological workforce.

Efforts are underway in the public and private sectors to address the challenges of improving the quality of science, mathematics and engineering education at all levels, and of recruiting and retaining more students interested in science and engineering careers. New programs at state and local levels include the creation of magnet schools, urban mathematics collaboratives, and pro-

grams to increase the number of minorities studying science and math. Some of these programs, such as the Mathematics, Engineering, Science Achievement (MESA) Program, started in California, which aims to increase the minority participation in science and engineering, have been very successful and are being replicated in different areas of the country.

The Federal Government also has an important role to play in supporting programs designed to improve science. mathematics and engineering education. Pre-college and undergraduate programs are supported by a number of departments and agencies. The National Science Foundation (NSF), in particular, has been a key agency in funding programs designed to improve science, mathematics and engineering curriculum, teacher quality, and laboratory instrumentation.

Summary of Hearing

The Committee on Science, Space, and Technology held three days of hearings to identify trends in science and math education, to review the federal efforts in this area, and to highlight local efforts which have great promise or demonstrated success in attracting student interest in science, in improving teacher performance, and in improving the learning process through application of new technologies.

On May 23, 1989, the President of the Education Commission of the States and assistant education commissioners from Texas and New York reviewed recent activities in the states to improve science and math curricula, including tracking the impact of curricula changes on student performance. Testimony was also received on inititives to upgrade teacher skills and to introduce applications of information technology into the classroom.

On May 24, 1989, the Secretary of Energy, the Director of NIH, the Deputy Director of NSF, and representatives from USDA, DOD, and NASA discussed current and planned pre-college and undergraduate-level programs in science and math education. Attention was focused on the nature and extent of coordination and collaboration among the agencies, on efforts to disseminate information about successful programs to the states, and on ideas to increase the impact of federal efforts to improve science education.

On June 7, 1989, the Committee heard from scientists, teachers, representatives from science museums and from professional scientific organizations, and science students about some specific programs or curriculum developments which have produced encouraging results. Following the hearing, teachers and their students who are participating in the Apple Classroom of Tomorrow program demonstrated several examples of computer-based learning.

Several common threads ran through the three days of hearings. Foremost was the need to upgrade teacher skills and to enhance teaching as a profession. In the area of curriculum, many witnesses stressed the importance of more laboratory experiences and hands-on instructional techniques. Critical elements which emerged include better coordination of instructional materials, teaching techniques and testing mentor programs for attracting more young people to science, and strengthening of basic graduation requirements. Finally, the testimony highlighted the need for more effec-

tive ways to disseminate information about successful programs in order to ensure wider replication of the success stories. Committee Publication Number 101–39.

3.2—INVESTIGATIONS AND OVERSIGHT SUBCOMMITTEE

3.2(a)—Technology Transfer Implications of the United States and Japan FSX Agreement

The Subcommittee on Investigations and Oversight joined the Subcommittee on International Scientific Cooperation and the Subcommittee on Transportation, Aviation and Materials for a joint hearing to address issues related to technologies involved in development of the next-generation Japanese Air Self-Defense Force fighter support aircraft, codenamed FSX.

Convening on April 6, 1989, the Subcommittees heard experts on relevant technologies, such as advanced composite materials, computer flight controls and the intangible skills related to aircraft system integration. The Committee sought to develop a framework for understanding the relative benefits that would accrue to the United States and Japan from their respective participation in the program. Members also desired to learn how the FSX program might affect the current U.S. lead in commercial aviation markets.

Specific background and hearing details are discussed in Section 3.8(c), prepared by the Subcommittee on International Scientific Cooperation. Further information is contained in Section 3.1(c) on the hearing held by the full Science, Space, and Technology Committee on May 11, 1989. The Subcommittee staff contributed to the collection and analysis of background information for Members of the Committee for that hearing. Committee Publication 101–62.

3.2(b)—Maintaining the Integrity of Scientific Research

Background

Beginning with hearings in 1981, the Subcommittee on Investigations and Oversight of the Committee on Science and Technology has reviewed the issue of scientific misconduct in government and academic research. Members learned then that agencies had done little planning for investigating allegations of misconduct in Federally-funded research and they urged the agencies to develop a policy and associated mechanism to redress that deficiency. The Subcommittee found even more disturbing the tendency of many scientists to dismiss misconduct as a minor problem and to assume that they were prepared to handle those few cases that did occur. Members advised the community that it should confront the problem directly in a convicing manner or the Federal Government would do so.

In 1985 Congress passed the Health Research Extension Act, which directed NIH to require assurance from grantee institutions that they had in place a policy and procedures for investigating misconduct as a condition for receiving Federal funds. The National Science Foundation (NSF) believed it important that they pursue a similar policy and initiated their own effort. The Foundation completed its rulemaking action in 1987.

A number of new misconduct cases were identified at institutions like Cornell University and Columbia University in the period between 1981 and 1988. In many of these investigations, it appeared that little progress had been made in preparing institutions for the possibility that misconduct might occur. The response of NIH and other agencies to these cases came under severe criticism from Congressional oversight committees in 1988 and 1989.

Hearing

On June 28, 1989, the Subcommittee convened to discuss issues relating to maintaining the integrity of scientific research. The hearing began with testimony from NIH and NSF witnesses regarding actions taken to establish oversight mechanisms for scientific misconduct. Special attention was focused on the new offices at the Department of Health and Human Services and NIH, and NSF's 1987 regulations dealing with scientific misconduct. Witnesses included Dr. Lyle Bivens, Acting Director, Office of Scientific Integrity Review, Department of Health and Human Services; Dr. William Raub, NIH Deputy Director, who was accompanied by Dr. Brian Kimes, Acting Director of the NIH Office of Scientific Integrity Review; and Mr. Robert Anderson, Deputy General Counsel for NSF.

Dr. Bivens described the organization and functions of the Office of Scientific Integrity Review (OSIR) and the Office of Scientific Integrity (OSI) in his statement. Dr. Raub's testimony focused primarily on the actions NIH had taken to organize and instruct the OSI staff, and to develop its relationships with OSIR.

While providing a similar review of NSF actions in developing misconduct regulations and a staff to implement misconduct policies and procedures, Anderson also discussed the definition of scientific misconduct arrived at by NIH and NSF. The definition includes two key substantive elements: 1) falsification, fabrication, or plagiarism in proposing, conducting, or reporting research and 2) other practices that seriously deviate from those commonly accepted by the scientific community for honestly proposing, carrying out, or reporting research. The latter was included to recognize that the consensus on good research practices is constantly evolving in the scientific community.

Bivens, Raub and Anderson all agreed that institutions where research was being conducted retained the primary responsibility for inquiring into and investigating allegations of scientific misconduct. Anderson testified that NSF experience shows institutions can carry out this job given the will to do so. Dr. Raub testified that OSI investigators would be a "collaborator in the process" of investigation misconduct, not "a police force with the authority to disrupt the creative scientific environments of institutions."

The second panel discussed how the prevalence of misconduct is affected by the environment and incentives provided by academic or other research institutions. Many cite the so-called "publish or perish syndrome" as a leading contributor to misconduct. Invited to testify were Dr. Penny Gilmer, Associate Professor of Chemistry at Florida State University; Dr. Paul Friedman, representing the Committee on Responsible Conduct of Research in the Health Sciences, Institute of Medicine; and Dr. Howard Schachman, a profes-

sor in the Department of Molecular Biology, University of California at Berkeley and President of the Federation of American Societies for Experimental Biology. All were asked to discuss the pressures that might cause researches or students to breach the ethical boundaries of science.

Dr. Gilmer has organized a course for students at Florida State University on "Problems in Science and Society." The program, she said, gives students insight into the complexity of the scientific and technology enterprise and its influence on society. Having served on the Florida State University faculty committee developing a policy and procedure for misconduct investigations, she was able to bring firsthand knowledge how academic faculties address misconduct to class discussions.

At the request of NIH, the Institute of Medicine created a Committee on the Responsible Conduct of Research in the Health Sciences to study improvements in the academic research environment. Dr. Friedman testified that the Institute committee found that sloppy or careless research practices and lack of attention to traditional monitoring approaches would be more damaging to research than outright fraud or serious misconduct. Their report, he said, urged institutions to attack overemphasis on quantity rather than quality and a lack of contact between senior scientists and their laboratory staffs.

Dr. Friedman advocated that NIH lead the effort to foster an improved research environment by organizing a new office to assist institutions in developing improved standards. This is one of the missions Dr. Raub identified for the Office of Scientific Integrity at NIH. The Institute recommended a 1992 deadline for policies and procedures on integrity in the scientific practice at research institutions. Friedman also expressed concern that new scientists are not receiving sufficient help in understanding the ethics of science.

Dr. Schachman began by defending distinctions between error and misconduct. He did not want efforts to eliminate misconduct to inhibit unconventional methods of research. For that reason, Dr. Schachman opposed the definition of misconduct adopted by NIH and NSF. His preference would be to exclude terms like "deception" and "misrepresentation," and the agency definition of "other practices that seriously deviate from those that are commonly accepted within the scientific community." Watson and Crick, Schachman pointed out, ignored many apparent facts in proposing a double-helix structure for DNA, but their approach was vindicated by success.

If institutions are responsible for investigating misconduct, how well are they exercising that responsibility? The Subcommittee invited four witnesses to discuss this important question. Dr. Friedman was asked to remain and testify on his first-hand experience in investigating a case of misconduct at the University of California at San Diego. Other witnesses included Dr. Albert Barber, Vice Chancellor for Research Programs at the University of California at Los Angeles; Dr. Robert Sprague, Professor, Institute for Research and Human Development, University of Illinois at Urbana-Champaign; and Ms. Barbara Mishkin, an attorney at the Washington firm of Hogan & Hartson.

In 1985, Dr. Friedman served on a panel investigating Robert Slutsky, a radiology resident trainee and associate clinical professor. The university had adopted procedures for organizing a faculty committee and general guidance on how it should proceed to investigate allegations of misconduct. Experience, Friedman said, showed that subjective judgments play a large role. He recommended that institutional policies focus on assuring reliable research, not catching cheaters, and "open questioning of methods and results, with less implication of moral error for having made a mistake in what one did."

Dr. Barber admitted that universities had not been prepared for the early spate of misconduct cases that had prompted the Subcommittee's attention in 1981. Since no one had addressed what the institution should do in such cases, the resulting investigations were notable for their crisis atmosphere. That experience has been applied to updating policies and procedures, as reflected by the publication of the "Framework for Institutional Policies and Procedures to Deal with Fraud in Research" by the American Association of Medical Colleges, the Association of American Universities and other contributing societies.

Dr. Sprague was asked to testify about his experiences as whistleblower in the case of Dr. Stephen Breuning. None of the involved institutions, nor the National Institutes of Mental Health (NIMH), responded in an effective manner, Sprague said. The journal Science performed poorly as well. The nadir came when, having successfully shown Breuning's work to be fabricated, Sprague found his NIMH grant terminated. Sprague rejected the idea that the NIMH decision was coincidental.

This example, Sprague concluded, demonstrated the need for guidelines like those discussed in the hearing. Specific deadlines were needed to prevent inertia from interfering with investigations and demoralizing the whistleblower. He also urged support for journals desiring a more active role in the area of scientific misconduct.

Ms. Mishkin proposed the development of consensus standards on good research practices, to include guidelines for authorship of scientific papers and access to primary data. Each author of a paper should clearly describe his contribution to the experiments described, and the absence of original data should be taken to mean that it never existed.

Mishkin also suggested that the Committee study the model developed in the Health Care Quality Improvement Act of 1986 as a possible method for fostering professional review of misconduct in science. The Act, she said, provided a structure for institutions to employ in examining medical misconduct and protections for persons participating in such activities. She argued that many faculty members, institutional administrators and scientific journals were leery of confronting misconduct as the possibility increased that doing so would embroil them in legal actions. Her proposal would offer immunity for those who participated in or published in good faith the findings from investigatory panels constituted under regulations that protected the due process rights of accused researchers.

Scientific journals play a central role in the scientific process by offering a forum for communication among researchers. As the ar-

biters for what constitutes the scientific literature, the Subcommittee felt it important to learn how journal editors and publishers could contribute to integrity in research by assuring the reliability of scientific publications. The witnesses were editors from the world's premier scientific journals: Mr. John Maddox, the editor of Nature, Dr. Daniel Koshland, editor of Science, and Dr. Drummond Rennie, Deputy Editor (West) for the Journal of the American Medical Association.

Mr. Maddox pointed out that error was inherent in scientific papers. Journal editors, he said, have the most basic reason to desire integrity in science; their reputations are at risk each time they publish a paper.

For help in evaluating submissions, most editors rely on "peer review." Papers are provided to researchers doing work in similar fields, called "referees," who evaluate methodology and whether the conclusions drawn are reasonable given the data presented. The process can identify some misconduct, primarily plagiarism and other less significant misdeeds, but fails when confronted with more deliberate or calculated actions. If journals are not good at identifying fraud, Maddox suggested that they offer an open forum for vigorous debate. Letters disputing a paper's methodology or results should be published expeditiously without necessarily seeking rebuttal comments from the original authors.

Dr. Koshland agreed with Maddox that the process used to select articles for publication had inherent limits when it came to detecting data fabrication and other serious misconduct. However, he was not convinced that a large problem existed, requiring a massive response. According to his testimony, while scientific journals might publish more than 300,000 articles a year, there are about twelve major cases of misconduct in science. Koshland concluded that such a small percentage of occurrence argued for severe penalties for the perpetrators.

"I have, as an editor, been personally tricked by or involved with a number of celebrated scientific cheats," Dr. Rennie began. He agreed that things work well so long as the questions concern science alone. Beyond that, "[t]o a skilled cheat the editor is a mark, a dupe, a patsy, and then becomes an accessory, and he is a hopeless flat-foot when it comes to investigation." He took it as a consensus opinion that universities must monitor research activities and punish fraud.

Rennie suggested journals should consider changing accountability for authorship and data retention policies. Journals and institutions should share information on misconduct cases. It should be journal policy to consider suspect all previous work by a scientist if allegations of misconduct are confirmed.

All three witnesses agreed that the privilege a journal enjoys to print leading-edge scientific research must be balanced by a willingness to correct the literature, whether required by error or misconduct. Dr. Rennie stated that while journals were unlikely to identify premeditated misconduct, all were eager to expose it when it did occur.

The Subcommittee, in addition to the hearing transcript, prepared a summary of the hearing. Committee Publications 101–73, 101–J.

3.2(c)—Fusion Energy Program: Status and Direction

The U.S. Government is funding two different approaches to achieving commercially viable fusion energy. Magnetic fusion uses a magnetic field to contain superheated gases, creating fusion conditions. Inertial confinement employs laser beams (or ion beams) to heat and compress a fuel capsule, which then implodes. The resulting shock wave produces fusion conditions in the encapsulated fuel.

Over $5.5 billion has been spent since the early 1960s in pursuit of magnetic fusion energy. While the long-term goal of the program is to build a fusion reactor pilot plant, the short-term goal is to enhance the ability of magnetic fields to confine the heated gases, or "plasma," and to achieve a self-sustaining reaction referred to as "ignition". As a result of progress made in the magnetic fusion program, both the Reagan and Bush Administrations supported the building of an experimental machine called the Compact Ignition Tokamak (CIT) to meet the goals of ignition and better confinement of plasma. The Science, Space, and Technology Committee authorized initial funding for the CIT in Fiscal Year 1988. However, in 1989, the Department of Energy's Director of the Office of Energy Research, Dr. Robert O. Hunter, proposed delaying construction of the Compact Ignition Tokamak and asked to reprogram $50 million from the Magnetic Fusion program to the Inertial Confinement Fusion program to stimulate a "competition" between the two technologies.

The ensuing debate over the direction and priorities of the nation's fusion energy program led the Subcommittee to hold a series of hearings in October of 1989 to review the direction of the program and the opinions of the fusion community regarding the appropriate next step to take in both the magnetic and inertial confinement programs.

Hearings

On October 3rd, 4th, and 5th the Committee held hearings on the magnetic fusion energy program. Witnesses included: Dr. Harold Furth, Director of the Princeton Plasma Physics Laboratory; Dr. Rulon K. Linford, Director of the Magnetic Fusion Energy Program Office, Los Alamos National Laboratory; Dr. Ronald Parker, Director of the Plasma Fusion Center, Massachusetts Institute of Technology (MIT); Dr. David Overskei, Senior Vice-President, General Atomics, San Diego, California; Dr. Alexander Glass, Laboratory Associate, Director for Programs, Lawrence Livermore National Laboratory; and Dr. John Gilleland, U.S. National Director of ITER Program, Lawrence Livermore National Laboratory. Each of the witnesses discussed elements of the magnetic fusion program under his purview and responded to the Committee's inquiries regarding the proper role of the Compact Ignition Tokamak and future planning for the Magnetic Fusion Energy Program.

Without exception each of the witnesses on October 3rd felt that the Compact Ignition Tokamak should be built as soon as possible, but on a schedule that allowed for changes to be made based on improvements from experiments in various laboratories.

On October 4th witnesses included: Dr. Fred Ribe, Department of Nuclear Engineering, University of Washington, Seattle, Washing-

ton; Dr. Kim Molvig, Department of Nuclear Engineering, MIT; Dr. John Sheffield, Director of Fusion Energy Division, Oak Ridge National Laboratory; Dr. Stephen O. Dean, President, Fusion Power Associates, Gaithersburg, Maryland; Dr. Robert Lotti, Vice-President, Advanced Technology, EBASCO, Inc.; and Dr. Kenneth Gentle, Professor of Physics, University of Texas at Austin. With the exception of Dr. Molvig, each of the witnesses agreed that the CIT should be built as soon as possible on a schedule that allowed for improvements based on current experiments. They also urged that predictable funding be achieved in the fusion program to prevent loss of skilled engineers and scientists who would be necessary to the program's future endeavors.

On October 5th, Dr. Robert O. Hunter, Jr., Director of the Office of Energy Research, Department of Energy (DOE), testified regarding his view of the Magnetic Fusion Energy Program. Dr. Hunter repeated his view that the construction of the Compact Ignition Tokamak should be delayed until further theoretical research has been accomplished. Dr. Hunter preferred to compete the magnetic fusion program with the inertial confinement program and pick a "winner" by the end of the century. Committee Members expressed their concerns to Dr. Hunter that the budget could not support a competition, nor was it feasible to compete the civilian Magnetic Fusion Energy Program with the primarily defense-funded Inertial Confinement Fusion program. Committee Members were also concerned that Dr. Hunter's advice to the Secretary of Energy had reflected the opinion of a minority of scientists in the community and ignored the advice and opinions of a majority of members of the DOE advisory panel on magnetic fusion energy.

The Subcommittee continued its hearings on fusion energy by examining Inertial Confinement Fusion (ICF) on October 26, 1989. Athough much of the ICF program is devoted to classified weapons-related research, the Committee on Science, Space, and Technology has urged the Department of Energy to pursue civilian uses of the ICF program since the late 1970s. The Subcommittee's hearing focused on the non-classified program and its civilian uses for energy production. Witnesses included: Dr. Erik Storm, Deputy Associate Director, Inertial Confinement Fusion, University of California; Dr. Klaus Berkner, Director, Acceleration and Fusion Research Division, Lawrence Berkeley Laboratory; Dr. David Cartwright, Program Director for Inertial Confinement Fusion, Los Alamos National Laboratory; and Dr. Robert McCrory, Director of Laboratory for Laser Energetics, University of Rochester. The witnesses discussed the status of inertial confinement fusion research at their institutions. The Committee heard testimony that the Inertial Confinement Fusion program has made great strides in the last several years and expects significant results to be achieved in the near future. All of the witnesses opposed a "competition" with the Magnetic Fusion Energy program, especially if the funds for such a competition came from the existing fusion budget. The witnesses also expressed concern that the fusion budget be stabilized to allow for proper planning and execution of long-term research goals to provide civilian benefits through the on-going military research in inertial confinement fusion. Committee Publication 101–84.

3.2(d)—The Earthquake Threat in the Central United States: Are We Prepared?

Background

An earthquake measuring 7.1 on the Richter scale struck the area surrounding California's Silicon Valley and San Francisco Bay on October 17, 1989. The shock was sufficient to collapse part of the Bay Bridge between the cities of Oakland and San Francisco, as well as a 1.5-mile segment of Interstate highway 880.

The Committee on Science, Space, and Technology was responsible for passage of the National Earthquake Hazards Reduction Act of 1974, reflecting the national extent of the earthquake problem. On May 23 and September 12, 1984, the Subcommittees on Investigation and Oversight and the Subcommittee on Science, Research and Technology, met to examine the application of the National Earthquake Hazards Reduction Program (NEHRP) created by the 1974 Act to the problem of earthquakes in the central United States.

Memphis, Tennessee, is the largest city at risk for the southern extensions of the New Madrid Fault in the central United States. In 1811 and 1812, the area around New Madrid, Missouri, suffered three massive earthquakes. Later research estimated that the smallest shock would have registered 8.4 on the Richter scale exceeding even the devastating San Francisco earthquake of 1906. While the likelihood is small that a similar distructive shock will recur, the region is poorly braced for the more likely case of a moderately damaging event on the order of Richter magnitude 6 or 7.

Legislation was introduced in the Senate by the Honorable Alan Cranston of California and the Honorable Al Gore of Tennessee to amend the 1974 Act in the first session of the 101st Congress. The Senate approved a bill, S. 1062, that seeks to concentrate more effort on applying available knowledge to designing resistant structures. An effort to transfer lead agency responsibilities for the NEHRP failed in the Committee on Commerce, Science and Transportation. A House companion bill, H.R. 3533, was introduced by the Honorable Bill Emerson of Missouri. It also included authorization for an additional $20 million for the NEHRP.

The Subcommittee on Science, Reseach and Technology has legislative jurisdiction over the NEHRP. Four agencies fall under the program umbrella: the Federal Emergency Management Agency (FEMA), assigned lead agency responsibilities in the Act; the United States Geological Survey (USGS) of the Department of the Interior; the National Science Foundation (NSF); and the National Institute of Standards and Technology (NIST). Section 3.5(c) describes other oversight hearings on the NEHRP conducted this year.

Hearing

Meeting on November 17, 1989, the Subcommittees on Investigation and Oversight and the Subcommittee on Science, Research and Technology heard witnesses on the earthquake threat from the New Madrid Fault and the actions now underway to prepare for such a disaster.

Congressman John Tanner of the Eighth District of Tennessee was the first witness at the hearing. He stated that he hoped the hearing would raise public awareness of the threat to western Tennessee posed by the New Madrid zone. Especially threatening was the likelihood of damage to utilities and other critical infrastructure that could affect the Northeast as well as the Midwest, he testified.

To establish the threat facing the population in the New Madrid seismic zone, the Subcommittee requested testimony from Dr. Dallas Peck, Director of the U.S. Geological Survey, Dr. James Hays, Director of the National Science Foundation's Division of Earth Sciences, and Dr. Arch Johnston, Director of the Center for Earthquake Research and Information at Memphis State University. Dr. Peck pointed out that earthquake research had advanced to the point where scientists can identify high-risk zones along the San Andreas Fault, including the segment that caused the October 17 shock. He then described for the Subcommittees preliminary ideas arising from a workshop convened by USGS and Dr. Johnston for the purpose of developing an intensive scientific study of the New Madrid zone.

According to Dr. Hays, NSF is supporting basic research on earthquake processes such as rifting and faulting in the Earth's crust, as well as developing and distributing better instruments. In the specific case of the New Madrid zone, NSF has sponsored recent conferences on earhtquake science and engineering at the University of Illinois at Urbana.

Dr. Johnston testified that Memphis could anticipate significant damage from even moderate earthquakes due to its foundations on soils with a high probability of liquefaction and the lack of seismic engineering in city structures. His statement also discussed the slow deterioration in funding for the NEHRP over the past fifteen years and the likelihood that funding shortfalls would force dismantlement of the instrument network monitoring the fault.

To discuss mitigating the effect of earthquakes, the Subcommittees invited testimony from Dr. James Beavers, a member of the Scientific Advisory Committee for the NSF National Center for Earthquake Engineering Research; Mr. Richard Ross, Vice Chairman of the Central United States Earthquake Consortium (CUSEC) and Directors of Missouri's State Emergency Management Agency; and Dr. Richard Wright, Director of the Center for Building Technology at NIST. Beavers and Ross commented that technology existed, if properly applied, that could reduce threats to life and property even in severe earthquakes. St. Louis, said Dr. Wright, was the only city in the New Madrid zone enforcing seismic contruction requirements in its building code. The experience of San Francisco shows that advance planning and preparation pays off in reduced loss of life and lower rebuilding costs, Beavers said.

Beavers indicated that top priority for future earthquake engineering research had to be characterizing the response of unreinforced masonry construction to earthquake events. Such construction was widespread throughout the eastern and midwestern United States. Ross testified that a concerted effort would be needed to upgrade the seismic resistance of buildings throughout the CUSEC region. Both agreed that greater funding was necessary

simply to restore the NEHRP to 1974 funding levels (corrected for inflation), and to allow States other than California to improve their own planning.

Dr. Wright, responding to the concerns expressed by Congressman Tanner, noted that knowledge was not available on earthquake mitigation for utilities and a concentrated program should be initiated to obtain that knowledge. He also provided the Subcommittees with background on the development of an Executive Order directing that seismic protection be engineered into new Federal buildings before construction. That order was subsequently approved by President Bush on January 5, 1990.

The hearing concluded with a panel devoted to the plans for responding to earthquakes in the New Madrid zone. Mr. Lacy Suiter, the Director of Tennessee's Emergency Management Agency, testified that Tennessee has in place a coordinated State and local response planning process and is working hard to increase public awareness of the threat from earthquakes. Suiter said that there is a significant training program seeking to provide a large cadre ready to deal with moderate, severe or catastrophic events.

The final witness, Mr. Dennis Kwiatkowski, is Assistant Associate Director for FEMA's Office of Natural and Technological Disasters. A New Madrid earthquake, he said, would be worse than a Loma Prieta-type event since the same priority is not assigned to hazard reduction efforts in the New Madrid region. FEMA is working with State and local governments to assure that the Federal Government can be ready to respond when local resources cannot cope, and to accelerate the implementation of building codes that contain improved seismic protections.

Mr. Kwiatkowski also defended FEMA's performance as lead agency for NEHRP. Responding to criticism about the resources the agency applied to its program responsibilities, he stated that FEMA took its responsibility seriously and had 23 people engaged in NEHRP activities, an additional 14 handling response planning and two with responsibility for nationwide hazard mitigation activities. Mr. Kwiatkowski also said that FEMA had responded to concerns raised by OMB and other agencies relating to the Executive Order on seismic construction practices.

All witnesses at the hearing were asked to provide their views on the changes in the 1974 Act made by S. 1062 and H.R. 3533. Mr. Ross agreed with the legislation's increased focus on applications of available research to mitigation. Dr. Beavers expressed concern that the bills were not accompanied by increased funds. For the most part, all witnesses who provided specific comment favored the direction taken by the legislation. Committee Publication 101–101.

3.2(e)—Bugs in the Program: Problems in Federal Government Computer Software Development and Regulation

On April 21, 1986, the Subcommittee met for a hearing on "Information Technologies in the Health Care System." The hearing examined progress in applying artificial intelligence research in medical diagnosis and the issues raised by the storage of medical records on computers. Witnesses at that hearing argued that the Food and Drug Administration (FDA) had neither the authority

nor ability to regulate computerized medical devices. The Subcommittee staff began a study to learn whether FDA was capable of addressing the problems of computer software regulation.

The Committee approved publication of the resulting staff study, Bugs in the Program: Problems in Federal Government Computer Software Development and Regulation, on August 3, 1989. Synthesizing three years of interviews with agency and industry software experts, and drawing on the abundant literature, the report is intended to describe for Members of the Committee some of the reasons why agencies do not obtain the value Congress expects from appropriations for computer systems and applications. It also places special emphasis on the difficulties faced by regulatory agencies that must protect public health and safety. The computer revolution raises a number of questions that agencies have not completely addressed in their regulatory strategies.

Procurement policies in the Federal Government are a major cause of software problems, according to the report. Hardware is no longer the driving force in most systems acquired by Federal agencies, and yet the process for developing these systems does not reflect the fact that many of the design issues raised by system development are now being answered by the software development process. Intense management attention is still focused on the tangible aspects of the system. Failures, however, arise in the intangibilities represented by software development. The procurement process then exacerbates initial errors by forcing early commitments to production in order to assure funding from the budget process.

Growing use is being made of computers for control of safety-critical systems. Examples include aircraft flight control systems like those used aboard the Space Shuttle and the European A-320 Airbus, and the controls for a radiation therapy machine whose malfunctions exposed at least four people to lethal doses of electron radiation. Agencies like FDA, the Federal Aviation Administration and the Nuclear Regulatory Commission are faced with deciding whether computer software controls will prevent a system from inadvertently stumbling into an unsafe condition. There are presently no available techniques that can unambiguously evaluate the safety of software used in such applications.

Government agencies are depending on a cadre of software specialists who have more lucrative opportunities available to them in the private sector, which faces many of the same woes afflicting the Federal Government. Coupled with the low esteem in which Government service is presently held, it is not surprising that some agencies have resorted to creative personnel actions in order to retain these vital people. The report goes on to question whether present training at the university level is providing the next generation of computer scientists and software engineers with proper technical and ethical foundations.

In conclusion, the report is careful to note that the "software crisis" first identified in 1968 will have no short-term solutions. Its recommendations, therefore, try to establish institutions that can maintain a long-term perspective and develop the plans that will achieve the goal of removing the bottleneck represented by Government software development. The report recommends that this responsibility belongs at the Office of Science and Technology Policy.

Further recommendations involve the software organizations at the National Institute of Standards and Technology and the National Science Foundation, and the technology transfer mission of the Software Engineering Institute at Pennsylvania's Carnegie-Mellon University. Committee Publication 101-G.

3.3—SUBCOMMITTEE ON NATURAL RESOURCES, AGRICULTURE RESEARCH AND ENVIRONMENT

3.3(a)—Oversight of EPA's Superfund Innovative Technology Evaluation (Site) Program

Background

During the 1985-86 debate on the reauthorization of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, or "Superfund"), one concern raised by industry and environmentalists alike was EPA's failure to use permanent treatment technology to clean up Superfund sites. In most cases, remedial options consisted of efforts to contain the wastes or to remove them to sites permitted under the Resource, Conservation, and Recovery Act (RCRA). Many studies confirmed, however, that these containment options generally failed and that most RCRA sites were releasing contaminants to the surrounding air, water, and land. Hearings before the Subcommittee on Natural Resources, Agriculture Research, and Environment indicated that reluctance to use innovative treatment technologies that would destroy hazardous waste or render it permanently harmless was due to the fear of using inadequately demonstrated or proven technologies. However, unless such technologies were in fact tested on such wastes, it was clear that the utility of such technologies could never be demonstrated.

As a result, Rep. Robert Torricelli (D-NJ) introduced H.R. 2802, the Superfund Clean-up Technology Research and Demonstration Act of 1985, which established, among other things, a research and demonstration program for innovative or alternate treatment technologies for use in the permanent treatment of wastes. The bill was passed by the Committee on Science, Space, and Technology and was later incorporated, in large part, in the Superfund Amendments and Reauthorization Act (SARA) of 1986. In response to the law, EPA established the five-year, $100 million Superfund Innovative Technology Evaluation (SITE) program.

Under SITE, carefully planned demonstration projects are conducted at hazardous waste sites to test innovative treatment technologies that significantly reduce the toxicity, mobility, and/or volume of hazardous wastes. The two primary goals of the SITE program are to provide sound technical and economic data on innovative technologies, and to facilitate the application of these technologies to Superfund site cleanups.

Hearing

An oversight hearing was held in Hackensack, New Jersey on July 17, 1989 on the SITE program. The purpose of the hearing was to review the program with respect to its success in evaluating innovative treatment technologies and in disseminating information

gained to the appropriate EPA project managers. Also under consideration was how well EPA's Superfund program is using the information generated by the SITE program. Criticisms of the SITE program were discussed. One such criticism was that the SITE technologies are not well-matched to the needs of the Superfund sites on which they are being demonstrated, resulting in data of questionable value. Another criticism was that technology developers wishing to commercialize their technologies through the SITE program have been disappointed by the long amount of time and high costs of the program. One witness, a clean up contractor, argued that contractors can test and market their products more effectively and quickly on their own than they can under the SITE program. Committee Publication Number 101-50.

3.3(b)—EPA Budget for Fiscal Year 1990

Background

The Subcommittee on Natural Resources, Agriculture Research, and Environment has legislative jurisdiction over the environmental research, development, and demonstration programs of the EPA. Authorizing legislation for EPA's Office of Research and Development (ORD) is expired; an authorization bill was last passed into law in 1981. In the 100th Congress, the House passed H.R. 2335, a two-year EPA research authorization bill, but the Senate failed to act.

EPA's research program is intended to support the Agency's regulatory mission under various environmental statutes. The ORD is responsible for EPA's in-house and extramural research programs. ORD accounts for about 18 percent of EPA's total operating budget (excluding Superfund and construction grants). Most of ORD's in-house research is carried out in its laboratories and field stations. However, about two-thirds of EPA's research is extramural. EPA carries out its extramural research program through grants, cooperative agreements, and contracts with universities, consultants, and contractors.

The Administration's budget request for EPA's R&D programs for 1990 was $421 million, an increase of $34.4 million, or nine percent, over 1989 levels. Although this budget proposal continued a trend toward modestly increasing R&D funding, EPA's research program in 1989 was 20 percent smaller than it was a decade before (taking inflation into account) both in terms of funding and personnel. This decrease in resources occurred at the same time that EPA's regulatory responsibilities were vastly increased through new legislation. Increased research funding for these new areas of concern, particularly the Superfund and acid rains, came at the expense of existing research programs, particularly in the Clean Air and Clean Water programs.

While difficult to quantify, the effects of declining investment in research have led many observers, including EPA's independent Science Advisory Board (SAB), to find that the overall research resources are insufficient to meet regulatory and statutory needs. The SAB developed 10 recommendations for improving the R&D program; in response to these recommendations, EPA proposed a "Core Research Program."

Hearings

On March 21, 1989, the Subcommittee on Natural Resources, Agriculture Research, and Environment held the first of two hearings to review the Administration's fiscal year 1990 budget request for research and development programs in the Environmental Protection Agency. Two witnesses testified: Dr. Erich Bretthauer, Environmental Protection Agency; and Dr. John Neuhold, Science Advisory Board, Environmental Protection Agency. The second hearing was held on April 25, 1989. Witnesses included Alvin L. Alm, TRC Companies; Roger Strelow, General Electric; Jay Hair, National Wildlife Federation; Richard Luthy, Association of Environmental Engineering Professors; and James Fava, Society for Environmental Toxicology and Chemistry. Committee Publication Number 101–57.

3.3(c)—Solid Waste Reduction and Recycling

Background

The United States generates over 160 million tons of municipal solid waste and at least 290 million tons of hazardous waste each year, and these amonts are rising steadily. Communities across the nation are facing many problems related to solid waste, including declining landfill capacity for increasing amounts of municipal solid waste, public opposition to all types of solid waste management facilities (especially incineration), and concerns about the human health risks and rising costs associated with waste management. Program of hazardous waste management have produced hundred of waste sites needing remediation due to contamination of ground water, soil, and air. As a result, there is wide public and congressonal interest in finding ways to prevent wastes from being generated in the first place and to better manage what is generated. Althogh several laws exist which address solid and hazardous wastes, many believe these laws need to be changed to improve polution prevention practices. Dozens of bills addressing solid and hazardous waste were introduced in the 101st Congress.

Hearings

A series of two field hearings were held on January 29, 1990 in Kalamazoo and Grand Rapids, Michigan. The first hearing, in the morning in Kalamazoo, addressed means for reducing the amount of solid and hazardous waste produced nationally and in Michigan. An EPA witness provided EPA's views on H.R. 3693, the Pollution Prevention Advancement Act (this bill is discussed in length under Legislative Activities). Witnesses included: the Honorable Mary Brown, Michigan House of Representatives; the Honorable Mick Middaugh, Michigan House of Representatives; Mr. Dan Beardsley, Environmental Protection Agency; Mr. David Stead, Michigan Environmental Council; Dr. Stacy Daniels, Great Lakes Hazardous Substance Research Center; and Mr. Jim Gillespie, Herman Miller, Inc.

The second part of the hearing, in the afternoon in Grand Rapids, focused on solid waste recycling, including that of beverage containers. Testimony was heard from state lawmakers and envi-

ronmental and consulting groups familiar with Michigan's recycling laws and their role in helping or hindering the expansion of the State's recycling program to include other solid waste materials. Witnesses included the Honorable Vernon Ehlers, Michigan State Senate; Mr. Robert Newberry, West Michigan Environmental Action Council; Dr. Kay Dodge, Center for Environmental Study; Mr. Bill Rustem, Public Sector Consultants, Inc.; Mr. Jeff Padnos, Padnos Louis Iron and Metal Co.; and Ms. Karen Fenske, Lubbers Resource Systems. Committee Publication Number 101-107.

3.3(d)—CFC Reduction—Technology Transfer to the Developing World

Background

Stratospheric ozone depletion is caused by the release of chlorine- and bromine-containing compounds such as chloroflurocarbons (CFCs) and halons. Evidence of severe depletion in the Antartic region detected in the mid-1980's, the so-called "ozone hole," led to the 1987 Montreal Protocol for Substances that Deplete the Ozone layer. The Protocol established a series of thresholds, deadlines, and non-compliance penalties for the signatory nations, resulting in a 50 percent reduction in the consumption of CFCs by the year 1999, and a freeze in the use of three halons by 1992. However, new scientific information obtained after the Protocol was negotiated led to a global effort to strengthen the terms of the agreement. In June, 1990, the Parties renegotiated the terms of the Protocol, to call for a complete phase-out of CFCs, carbon tetrachloride, and halons (non-essential uses) by the year 2000. Most notably, agreement was also reached on the establishment of an interim, international "Multinational Fund" to which developed nations would contribute to enable developing nations to afford new technologies and CFC-replacement substances.

Hearing

The purpose of the hearing was to review the terms of the Montreal Protocol as amended, and to hear the views from the perspectives and the Administration, environmental groups, and industry. On the first panel, the witnesses from the U.S. delegation, led by State Department, were asked to discuss the negotiations that led to the agreement. The second panel was asked to offer the perspective of non-governmental organizations from the environmental as well as the industry communities. Witnesses included: Mr. Richard Smith, Department of State; Ms. Eileen Claussen, Environmental Protection Agency; Mr. Robert Reinstein, Office of the U.S. Trade Representative, Dr. Robert Watson, NASA; Ms. Liz Cook, Friends of the Earth, and Mr. Paul Cammer, Halogenated Solvents Industries Alliance. Committee Publication Number 101-149.

3.3(e)—Overview of the Global Food and Population Situation

Background

It is estimated that 15 million people die from hunger and related diseases each year. The imbalance in the global food-population equation is a result of several factors. The crisis in food, through-

out many parts of the world, is the result of a gradual decline in production of food and of cash crops per person, with no compensating rise in non-agricultural output that could finance food imports. This has been paralleled by what some considered to be a population crisis, with the number of people expected to top 10 billion within thirty years. When these issues are framed against the global environmental picture, with vast, heavily populated regions being deforested, degraded and impoverished at an alarming rate, future prospects do not appear encouraging.

Due to the "green revolution" and other technological developments in agriculture, in recent years the growth in world food production has on average kept pace with population increases. Such averages however, belie the wide variance in nutrition and health throghout the world. The developed nations of the world, in general, enjoy a food surplus. In certain areas of the developing world such as India and Southeast Asia, food production has kept pace with population growth. Other areas, particularly Africa, face chronic food deficits. A decade ago, a number of African nations were net food exporters; today, per capita food production is falling despite increases in both total land under cultivation and agricultural productivity. Africa's per capita food production has declined 25% since 1965. While economic policies and political instability have played a significant role in limiting agricultural production, the fundamental problem for such regions remains that the rise in population growth outstrips the rise in food production.

These regional imbalances between food production and population growth pose global food distribution problems since, poor countries do not have the capitol to buy food from food surplus nations. This problem is compounded by the international debt situation.

Scientists have come to realize that modern agricultural practices deplete the world's agricultural; resource base and are environmentally destabilizing in the long-term. Increased reliance on fertilizers, herbicides and pesticides have compromised water reserves in many key food producing regions. Pumping of groundwater for intensive irrigation has reduced aquifers to critically low levels in many of the world's richest agricultural areas.

In many regions, fragile, marginal lands have been cleared for farmland, resulting in the loss of valuable topsoil and contributing to tremendous flooding and devastation. When soil erosion reaches advanced stages, the result is desertification and ultimately the loss of the land from agricultural production.

Increases in atmospheric concentration of greenhouse gases may have a significant impact on world agricultural production. While regional impacts can not be reliably predicted, many models suggest that regional impacts on temperature and precipitation could be severe, particularly in those areas of the world—such as the American mid-west and California—that have long been viewed as the world's bread basket. The drought and heat wave suffered by the U.S. mid-west in 1988 was a dramatic illustration of the possible impacts of future global warming, as massive grain reserves were drawn down to the lowest level in many years. Were the drought to be sustained, it is unlikely that America could export sufficient grain to meet worldwide demand.

Ironically, agricultural practices themselves may be contributing to the greenhouse effect. The burning of savannas and rain forests to clear land for farming contributes significantly to atmospheric carbon dioxide, while increased cultivation of rice and livestock are suspected sources of increased atmospheric methane, which also contributes to the greenhouse effect.

Advances in agricultural technology (such as biotechnology and mariculture) are under consideration as a means of increasing the world food supply. However, these technologies are not particularly relevant to small, scale subsistence farmers in developing countries.

Hearings

On February 23, 28 and March 2, 1989, in anticipation of the historic Centenary Convention of the Inter Parliamentary Union, the Subcommittee on natural Resources, Agriculture Research and Environment held a series of hearings which examined the fragile balance between population growth, food production, and environmental degradation. The hearings focused on advances in agricultural technology as well as the environmental constraints which influence global food production and how this will be influenced by the needs of an increasing population.

Testimony was received from the following individuals: Dr. John Stover, Vice-President, The Futures Group; Dr. Robert Chandler, 1988 World Food Prize Winner, Dr. Hillel Gordin, Director, The National Center for Mariculture, Israel; Dr. Pedro Sanchez, North Carolina State University; Dr. Ronald Trostle, Chief, Commodity and Trade Analysis Branch, Department of Agriculture; Dr. Luther Val Giddings, Biotechnology Consultant; Dr. Joyce R. Starr, Co-chairman, U.S. Global Strategy Council, Ms. Patricia Baldi, Director, Populations Program, and Ms. Frances Spivy-Weber, Director, International Program, The National Audubon Society; Dr. Waafus Ofusu-Amaah, WORLDWIDE; Mr. Lester R. Brown, President, The Worldwatch Institute; Dr. Raymond F. Hopkins, Chairman, Department of Political Science, Swarthmore College; Dr. Charles Benbrook, Executive Director, Board on Agriculture, National Research Council; Mr. Maurice Strong, Chairman, American Water Development, Inc.; Hon. Sat Pau Mittal, Parliamentarian, India; Hon. Bruce Halliday, Member of Parliament, House of Commons, Canada; Hon. David J. Kwidini, Minister of Youth, Sports and Culture, Zimbabwe; Hon. Celso Sotomarino, Senator, Peru; Hon. Robert Key, Member of Parliament, House of Commons, England, Dr. Fred Sai, Senior Population Advisor, World Bank; Professor Wangari Maathai, Coordinator, Green Belt Movement, Kenya; and Dr. Carl Wahren, Head, Aid Management Division, Organization for Economic Cooperation and Development. Committee Publication Numbers 101-3 and Serial F, 101-A.

3.3(f)—The Sardar Sarovar Dam Project

Background

The World Bank financed Sardar Sarovar dam project in Western India will forcibly displace 90,000 people. This dam is part of a plan (Narmada Project) to provide irrigation and hydroelectric

power through the construction of 3200 dams on the Narmada River and its tributaries over the next 40–50 years.

A key issue is whether the scale of water impoundment envisioned by this dam will lead to a system of water use which can be sustained without destroying the productive capacity and fertility of the lands involved. Due to the lack of economically viable alternatives for reclaiming degraded lands, it is essential that the effect of this project be considered in toto. This project will result in the submergence of the most fertile agricultural region in India and cause the destruction of 50,000 hectares of deciduous forest.

The controversy surrounding the construction of this series of dams is based on the extreme environmental disruption and population displacement this project will cause. The World Bank has supplied approximately $450 million for this project and it is anticipated that the loan commitment to the Indian government will exceed a billion dollars for this project. The Japanese Overseas Economic Cooperation Fund has supplied $150 million.

International non-government organizations (NGOs) such as the Environmental Defense Fund have called for a reassessment of this project based upon the disruption it will cause for indigenous, tribal people and the utter devastation it will wreak on the environment. NGOs within India claim that the environmental impact assessments and cost benefit analyses submitted the World Bank show that this project is fundamentally flawed. The Bank has asked the Indian government to conduct additional studies on the environmental impact of the project, however, the studies have not been forthcoming and construction of the dams is proceeding.

Questions have arisen concerning whether the cost-benefit analysis of this project has actually taken into account the costs associated with measures to mitigate public health impacts, the costs of R&R, the environmental costs of forest submergence, and the cost associated with the loss of agricultural lands from production. Indian NGOs maintain that projected crop yield are exaggerated, and far beyond yields obtained in comparable irrigation projects. Accordingly, in 1988, the Bank agreed to "revisit" the cost-benefit analysis for the dam although no time table for the completion of this report has been announced. Sec. 401 of P.L. 101–45 specifically requires consideration of the cost of environmental degradation in the calculation of the GNP of a foreign assistance recipient.

Although the Bank has recently instituted programs to monitor the environmental aspects of Bank projects, critics assert that little has been done to overhaul the institutional bias which discounts the effect of development projects on the environment. The U.S. Executive Director of the Bank voted in favor of the project when it came before the Board in 1985, it seems certain that this project would not receive a favorable U.S. vote should it come before the Board again. Currently the U.S. contributes just over 24% of the Bank's funds.

Copies of the Committee hearing proceedings were furnished to the Executive Directors of the World Bank and Members of various parliaments. The Executive Directors of the Bank subsequently held a series of meetings on this controversial project. The project has failed to comply with deadlines for furnishing materials to the World Bank including resettlement plans and environmental stud-

ies and the future of the project is uncertain. Following the Committee's hearing, several Members of the Japanese Diet initiated an inquiry into that country's $150 million bilateral assistance program for the Sardar Sarovar Dam. Japan subsequently withdrew its support for the project. The Subcommittee continues to monitor this project through the Department of Treasury and various international environmental organizations.

Hearing

On October 24, 1989, the Subcommittee convened a hearing which focused on whether requisite environmental research has been performed to determine the effect the Sardar Sarovar project on agriculture, wildlife and water quality in the region and secondly, how environmental considerations factor into the evaluation process of multinational development banks. Witnesses included: Ms. Lori Udall, Staff Attorney, Environmental Defense Fund; Ms. Medha Patkar, Narmada Bacho Andolan; Mr. Girish Patel, Counsel, Narmada Bacho Andolan; Dr. Vijay Paranjpye, Professor of Economics, Ness Wadia College; Mr. Peter Miller, Energy Analyst accompanied by Valmik Ahuja, Research Associate, Environmental Defense Fund; and Mr. Frank Vukmanic, Director of the Office of Multilateral Development Banks, Department of Treasury. Committee Publication Number 101-68.

3.3(g)—The Status and Future of the Landsat Remote-Sensing System

Background

The Landsat program was originally established in NASA in the early 1970's as a research and development program. After launching three satellites, the Government's basic research and development work at NASA was completed and the program was deemed operational. Since 1972, the U.S. Government has launched five Land Remote-Sensing Satellites.

In 1979, the Department of Commerce was given the responsibility for the operation and eventual transfer of Landsat to the private sector. Shortly thereafter, the Administration decided that additional subsidies would be required to get the private sector to take over the system. As a result, Landsat 4 and Landsat 5 were launched in 1982 and 1984, respectively. Landsat 4 and Landsat 5 are currently operational, although both have operated beyond their designed lifetimes. Since the launch of Landsat 6 is not scheduled until 1991, there will possibly be a gap in remote-sensing coverage between the demise of Landsat 5 and the launch of Landsat 6.

Land remote-sensing satellites provide useful information on oil and mineral deposits, hydrological patterns, vegetation including agricultural crops, and other renewable and nonrenewable resources. In recent years, Landsat data have also been increasingly useful in the defense and intelligence communities. In fact, civilian land remote-sensing photographs appear several times in the recently released DOD study "Soviet Military Power".

The Science, Space, and Technology Committee played a major role in drafting and passing the Land Remote-Sensing Commercial-

ization Act of 1984 (P.L. 98-365), which provided for a subsidized ($250 million), ten-year transition of Landsat operations from the government to the private sector. In 1985, the Department of Commerce signed a contract for Landsat operations with EOSAT Corporation, a cooperative venture between Hughes and RCA. In return for a $250 million subsidy, EOSAT agreed to build, launch, and operate Landsats 6 and 7—thereby guaranteeing the U.S. at least 6 additional years of land remote-sensing capability.

After the contract was signed, however, funding for the follow-on system became a major problem. The Administration requested no funding for the EOSAT contract in FY 1986 or FY 1987. The Administration did request funding in the FY 1988 budget for a one-satellite (Landsat 6 only) system, but the plan was rejected as inadequate by the Senate Appropriations Committee in January 1987. Subsequently, the Administration provided a plan that provided funding for Landsat 6 and a commitment to devlop Landsat 7, the precise configuration of which would follow studies of options for advanced remote sensing, taking into account data markets, advanced instruments and spacecraft and launch options. This plan was approved the Appropriations Committees of the House and Senate on October 15, 1987. This plan required a modification of the contractual relationship between the government and the contractor. In the FY 1988 Continuing Resolution, the release of appropriated funds was conditioned upon a renegotiated contract between NOAA and EOSAT being approved by the Appropriations Committees of the Congress.

In the Spring of 1987 after the U.S. expenditure of approximately $1.5 billion, the Landsat program was foundering. The French and Japanese were poised to inherit both the technology and the potential market place in remote sensing. The Committee held two days of hearings in early April of 1987 to review the costs and benefits associated with maintianing a national capability in earth remote sensing. These hearings demonstrated that a continued Landsat program—involving a strong commitment to Landsat 6 and 7 is important to the Nation in a number of ways, not the least of which are national security and technological competitiveness. The Committee worked with the Administration to develop an acceptable plan to fund the Landsat system, which was approved by the Appropriations Committee in October 1987. However, funding was conditioned upon the government and private sector contracor, EOSAT, reaching a successful contract modification by April 1, 1988. The contract was subject to aproval by the House and Senate Appropriations Committee.

On March 16, 1988, the renegotiated modification to the Commerce Department's Landsat commercialization contract with EOSAT was forwarded to the House and Senate. The Subcommittee on Natural Resources, Agriculture Research and Environment convened a hearing on March 23, 1988 to determine whether the contract modification represented a viable option for continuing our remote sensing program; and whether an acceptable level of planning was underway for the development of an advanced commerical land remote sensing systems for the mid-1990s and beyond.

The modified Landsat 6 contract provided a total satellite/launch cost package of $256.5 million. Of this amount, $220 million is for

the spacecraft. The government contribution for the spacecraft will be $209.2 million. The remainder of the spacecraft costs ($10.8 million) is to be provided by a revenue sharing arrangement by which EOSAT will pay the first $2.5 million it earns in revenue each year until the $10.8 million is paid back to the government. Since that revenue stream could not be guaranteed because of potential demise of Landsat 4 and 5 (both operating beyond their projected lifetimes), NOAA negotiated a lower launch cost of $37.5 million. The modified Landsat contract was approved by the House and Senate Appropriations Committees shortly after the Subcommittee hearing.

During the hearing, the Subcommittee also reviewed the status of the ongoing Advanced Remote Sensing study. The FY 88 Continuing Resolution, provided $2 million to study the configuration of Landsat 7. The House Appropriations Committee report described the study as follows: "The Committee expects the Department of Commerce to conduct a study of options for subsequent remote-sensing activities, taking into account data markets and applications, advanced instruments and spacecraft and launch options. As part of the study, the Committee expects the Department to examine opportunities for government and industry partnership with substantial industry investment, participation by other government agencies, and an international cooperative partnership. The Committee expects that this study will provide the basis on which the Congress can determine policy on the future of any advanced commercialized system."

For Fiscal Year 1989, the Administration "zeroed out" funding for Landsat operations, proposing a $26 million reduction in funding for Landsat ". . . because of the anticipataed termination of operational use of Landsat 4 and Landsat 5 satellites."

Congress, in the Conference agreement for the FY 1989 Commerce, Justice, State, and Judiciary Appropriations bill provided only six months of funding ($9.4 million) for the operation of the Landsat 4 and Landsat 5 satellites. That funding level was the result of continuing budgetary restraints and the assumption that one or both of the satellites would fail during the first six months of the fiscal year. Both satellites, however, are continuing to operate beyond their designed lives; and recent evaluations indicate that, barring any unforeseen circumstances, one or both of the satellites may continue to operate through 1990 or beyond.

Hearings

On March 7, 1989, the Subcommittee on Natural Resources, Agriculture Research and Environment held an emergency hearing on the National Oceanic and Atmospheric Administration's plans to terminate operations of Landsat 4 and 5 at the end of March 1989. As a result of the lack of appropriated funds for Landsat operations, the National Oceanic and Atmospheric Administration (NOAA) announced that Landsat 4 and Landsat 5 would be placed on internal control and not be tended in orbit unless funds can be secured by March 31, 1989. Once the satellites are placed on internal control, reestablishing communications with them is unlikely.

NOAA had contacted the various government agencies that use Landsat data (the Department of Defense, NASA, the Department

of Interior and the Department of Agriculture), as well as the private-sector contractor (EOSAT), notifying them of NOAA's plans to terminate the program and soliciting the funds necessary to continue operations. None, however, offered to provide funding contributions for the program.

During the hearing it was announced that the Vice President, who also serves as Chairman of the National Space Council, had committed the National Space Council to secure funding sufficient to keep the satellites operating for a few more months, pending a Landsat policy review to be conducted by the National Space Council. The President endorsed the recommendations of the National Space Council on June 1, 1989, including the continued operations of Landsat 4 and 5, the completion and launch of Landsat 6, and the continuation of a program to collect "Landsat-type data" after Landsat 6.

Witnesses at the hearing included Mr. Thomas Pyke, Jr., Assistant Administrator for Satellite and Information Services, National Oceanic and Atmospheric Administration; Dr. Thomas Quinn, Principal Deputy to the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence, Department of Defense; Dr. Dallas Peck, Director of the U.S. Geological Survey, Department of Interior; Mr. James Donald, Chairman of the World Agriculture Outlook Board, Department of Agriculture; Mr. Charles P. Williams, President, Earth Observation Satellite Company (EOSAT); Mr. Don Lathan, former Assistant Secretary of Defense for Command, Control, Communications, and Intelligence, U.S. Department of Defense; Dr. Barry N. Rock, Associate Professor of Forest Resources, Institute for the Study of Earth, Oceans, and Space, University of New Hampshire; Dr. Ray Cline, Chairman, U.S. Global Strategy Council, Dr. Mark Settle, Manager, Integrated Exploration Research, Arco Oil and Gas Company; Dr. William P. Bishop, Vice President for Research, Desert Research Institute.

On May 9, 1989, the Subcommittee on Natural Resources, Agriculture Research and Environment and the Subcommittee on International Scientific Cooperation held a hearing on the Future of Landsat Commercialization. The hearing examined the long-term future of U.S. civil remote-sensing; recent studies of the commercial viability of the Landsat system; and the pros and cons of possible bilateral and multilateral consortia in space remote-sensing. The hearing also explored a broad range of future policy options for Landsat, including remote sensing technologies, management options, and commercial marketing opportunities in light of the Landsat commercialization experience to date, the prospects for international cooperation, and global markets for remote-sensing data.

Testimony was heard from Mr. David Julyan, Executive Vice President, SPOT Image Corporation; Anatoly Shutko, Institute of Radio Engineering and Electronics, Academy of Sciences, U.S.S.R.; Myron Laserson, Contitrade Services Corporation, Continental Grain company; Tsuguo Tadakawa and Takuji Yamagami, National Space Development Agency, Japan; John McElroy, Dean, School of Engineering, University of Texas; Jerry Caseman, Harris Corporation; Michael Meier, Vice President; KRS Remote Sensing;

Robert Brammer, The Analytic Science Corporation; and John Egan, President, The Egan Group, Inc.

On February 15, 1990, the Subcommittee on Natural Resources, Agriculture Research and Environment and the Subcommittee on International Scientific Cooperation held a hearing on Innovative Applications, Advanced Technologies, and New Markets for Landsat remote sensing in Riverside, California. The hearing examined the long-term future of U.S. civil remote-sensing; recent studies of the commercial viability of the Landsat system; and the development of new markets for remote-sensing from space. Testimony was heard from Floyd Sabins, Senior Research Scientist, Chevron Oil Field Research Company; Thomas Mace, Chief, Remote Sensing and Air Monitoring Branch, Environmental Protection Agency; Thomas Elder, Arizona Department of Water Resources; Pete Norris, Executive Vice President, Earth Observation Satellite Corporation (EOSAT); Donn Walklett, President and C.E.O., Terra-Marr Resource Information Service, Inc.; Stephen Sperry, Earth Resource Data Analysis System; Dr. John Estes, Professor of Geology and Director of Remote Sensing, University of California at Santa Barbara; Kass Green, President, Pacific Meridian Resources; and Dave Thibault, Executive Vice President, Earth Satellite Corporation.

In its hearings on the Landsat Commercialization effort, the Committee reiterated that the United States must make a firm commitment to the Landsat program. The goal of commercialization is not served by the reneging on contractual commitments and budgetary support for the commercial entity EOSAT, or by actions which undercut the long term viability of the commercialization program. The clear message to the commercial sector from the EOSAT experience is that the U.S. Government is an unreliable partner. Committee Publications Number 101-40 and 101-43.

3.3(h)—Modernization of the Weather Service

Background

The National Weather Service's ability to provide the public with early warnings of hazardous weather events is severely hampered by their reliance on outdated and obsolete equipment, much of which dates back to the 1950's. Previous efforts to modernize the equipment at the NWS have been met with resistance from the Office of Management and Budget.

In 1988, Congress approved legislation authorizing the programs of the National Oceanic and Atmospheric Administration (Title IV of the NASA Authorization bill—P.L. 100-685) and directing the Secretary of Commerce to prepare and submit to Congress a 10-year strategic plan to modernize the National Weather Service. P.L. 100-685 specified that the strategic plan was to include basic service improvement objectives as well as the critical new technological components and associated operational (personnel) changes necessary to improve the timeliness and accuracy of severe weather warnings.

The Strategic Plan has five main technological components: (1) a nationwide network of 160 new Doppler radar (NEXRAD) systems; (2) a new generation of Geostationary weather satellites (GOES-

NEXT): (3) over 1,000 automated weather observation stations (ASOS); (4) a set of higher speed supercomputers to tie all these sources of information together with (5), a new data processing, communication, and meterologist work station display system (AWIPS).

This Strategic Plan is the first part of a two step process by which the Department of Commerce will prepare and submit to Congress its plans to modernize the technology used by the National Weather Service. The second, more detailed, report (the National Implementation Plan), due October 1, 1989, is mandated by Section 407(b) of the Act.

Specifically, section 407(b) requires the Secretary of Commerce to send to Congress a National Implementation Plan setting forth detailed schedules necessary to accomplish the objections described in the Strategic Plan. The report will include: (1) detailed requirements for new technologies, facilities, and staffing levels; (2) special measures to test, evaluate, and demonstrate key elements of the modernized weather service operations; and (3) detailed funding requirements and plans to accomplish the modernization effort.

The current weather radars operated by the National Weather Service are over 25 years old and generlly obsolete. A next generation radar (NEXRAD) is essential for the National Weather Service, as well as the Federal Aviation Administration and the Air Force, to satisfy their requirements for information concerning the genesis, location, intensity, and movement of severe weather systems.

NEXRAD, as a system, is an automated Doppler weather radar designed to acquire, process, and distribute improved weather radar information. NEXRAD, is contrast to conventional radar, detects and measures the velocity of water droplets and dust particles in the atmosphere. The signals, which are converted to digital form, are processed to create graphic displays, alphanumeric, and data array products, substantially increasing the lead time for severe storm warnings.

The current methods used to obtain weather observations are labor-intensive. The National Weather Service Currently involves approximately 1,200 employees nationwide in conducting these surface observation activities. The current workload is such that these employees cannot always meet the demands for other basic weather services and still provide weather observations.

The National Weather Service plans to implement an automated weather observation system capable of being deployed in various site-specific configurations. This Automated Surface Observing System (ASOS) will employ modern technology to acquire, process, store, format, and distribute weather observation data. It is designed to interface with existing and future weather data distribution systems (such as AWIPS) and operate with or without contributions of weather observers.

The National Weather Service's communication system, known as the Automation of Field Operations and Services (AFOS) system, is obsolete since it lacks the capability to process and analyze large volumes of fine-scale data from satellites and from NEXRAD, along with other weather observation information. Consequently, the National Weather Service has plans to implement an advanced

system, the Advanced Weather Interactive Processing System (AWIPS), a highly automated integrated weather information processing and display system which will expand the forecaster's ability to provide local weather warnings and forecasts.

The AWIPS system will include on-station computer processors an associated software to receive, store, manipulate, and process various kinds of data; produce local displays and respond to inputs from the forecaster; support the forecaster in the generation of weather predictions; and deliver these weather products and selected data to a large number of distribution and dissemination ports. The AWIPS system will collect data from surface observational networks, NEXRAD and conventional radar data, radiosonde or profiler data from upper-air sounding sites, satellite imagery and sounding data, as well as selected graphic and alphanumeric products, data from other AWIPS installations, and guidance information from National Centers and field offices. This data base will be received, stored and structured so that local forecasters could access and combine data and images to conduct complex analysis for substantially enhanced weather forecasts.

Hearings

The Subcommittee on Natural Resources, Agriculture Research and Environment held an oversight hearing in Raleigh, North Carolina, on March 8, 1988, to assess the performance of the National Weather Service in providing Tornado Forecasting and Severe Storm Warnings during the tornado outbreak of November 1988. Specifically, the objectives of the hearing were to review the extent of the destruction and loss of lives in North Carolina caused by the tornadoes of November 28, 1988; assess the performance of the National Weather Service in forecasting severe weather and communicating tornado warnings efficiently and effectively; identify new technologies and new procedures to improve the effectiveness of the National Weather Service's severe storm forecasting and warning system; and examine the need for better coordination and cooperation between local, state, and Federal officials and the media during the presence of hazardous weather.

On Monday, November 28, 1988, tornadoes in North Carolina caused $77 million in damage, injured 157 people, and left 982 homeless. Miraculously, only four people died. Tornadoes, particularly the ones of this scale and destructive strength, rarely happen during the cool season in North Carolina. The track of one tornado was 84 miles long with winds estimated at 210 M.P.H. Considering the amount of damage caused by this outbreak, it was astonishing that the death rate was so low.

National Weather Service Offices in North Carolina did not provide advance warnings to the public, and no watch was issued prior to the initial tornado. During the storm there was never a confirmation of a tornado from any radar echoes, or from satellite imagery.

The Raleigh-Durham radar equipment was out of service from November 20th to November 29th, due to the lack of spare parts and part modification kits, and problems with the NWS spare part distribution system. With the local radar out of service, and no indication of severe weather from neighboring radars or the Severe

Storm Center in Kansas City, the weather forecast office was staffed for routine weather. This staff was not sufficient to handle the rapid, significant increase in workload once damage reports and observations of severe weather began to be received. Limitations in communications equipment design, and deficiencies in operational procedures used by the National Weather Service in the dissemination of weather warnings led to these warnings being delayed or not transmitted to the public at all.

In conclusion, the circumstances and events of the North Carolina tornado outbreak of last November presented a compelling, almost desperate, need to upgrade and replace the nation's aged system of weather radars.

Witnesses at the hearing included Dr. Ronald McPherson, Deputy Assistant Administrator, National Weather Service; Mr. Robert Muller, Meteorologist in Charge, Raleigh-Durham Weather Service Office, National Weather Service; Dr. Frederick Ostby, Director National Severe Storms forecast Center, National Weather Service; Hon. Avery Upchurch, Mayor of Raleigh, North Carolina; Hon. Brenda Moody, Mayor of Rolesville, North Carolina; Mr. Raymond Boutwell, County Manager, Franklin County, North Carolina; Mr. Greg Fishel, Meteorologist, WRAL-TV, Raleigh, North Carolina; and Mr. Michael Caplan, Meteorologist, WTVD-TV, Raleigh, North Carolina.

On August 8, 1989, the Subcommittee on Natural Resources, Agriculture Research and Environment held an oversight hearing on Tornado Warnings and Weather Service Modernization in Spartanburg, South Carolina. The objectives of the hearing were to review the improvements in the timeliness of tornado warnings resulting from the implementation of new technology and modernization of the National Weather Service and to assess the adequacy of NEXRAD radar coverage of the Greenville-Spartanburg area under the current NWS modernization plan and its impact on tornado warnings.

While tornadoes occur in all parts of the world, North America experiences both the greatest number and the most severe tornadoes. Each year about 600 tornadoes as reported in the United States. Their origins can be traced to severe thunderstorms, formed when warm moist air sweeping up from the Gulf of Mexico meets cold, continental air flowing from the west and northwest.

Tornadoes are difficult to predict due to their rapid formation, relatively short lifetime, and relatively small size. Although the precise details of tornado generation are not fully understood, tornadoes are most prevalent in the spring and normally from during the middle or late afternoon, between the hours of 3:00 p.m. and 7:00 p.m. While tornadoes occur over much of the eastern two-thirds of the U.S.A., states in the mid-south and mid-west typically experience the greatest annual devastation from tornadoes.

Weather Radar is an essential tool in forecasting severe weather from which tornadoes can be generated and in spotting actual occurrences of tornadoes. Radar data, available from the U.S. Basic Weather Radar Network (composed of NWS radars, Air Force radars and FAA radars), are used routinely in the preparation of NSSFC products. In addition, the NWS, the Air Force, and the Navy operate a number of non-network radars, used primarily for

local forecasting and warning and to provide selected information on severe storms. The next generation radar (NEXRAD) is essential for the National Weather Service to satisfy their requirements for information concerning the genesis, location, intensity, and movement of severe weather systems. The NEXRAD system has the potential of increasing tornado warning lead times from the current average of 3 minutes to as much as 30 minutes.

While it is clear that NEXRAD will provide conventional radar coverage equivalent or better than the system currently in place, there is increasing concern about the range of the Doppler component of the NEXRAD radar. The Doppler component of the NEXRAD system (which measures wind speeds and direction) is critical for the early detection of tornado formation. While the NEXRAD radar is still undergoing testing, it is estimated that the range of the Doppler component will be 50–60 miles (compared to the 150 mile range of the conventional beam). Thus, the NEXRAD system may not be able to detect small scale phenomena (such as tornadoes) occurring at the edge of its Doppler range.

Witnesses at the hearing included Dr. Elbert "Joe" Friday, Director, National Weather Service; Mr. Wayne Jones, Director, Greenville-Spartanburg Weather Service Office, National Weather Service; Dr. Carlton Ulbrich, Department of Physics, Clemson University, Clemson, South Carolina; Mr. Chris Reddick, Manager, Delta Airlines, Greenville-Spartanburg Airport; Mr. Larry Holcomb, Airport Operations Manager, Greenville-Spartanburg Airport; Mr. Lee Brown, WYFF-TV, Greenville, South Carolina; Mr. John Roper, WSPA-TV, Spartanburg, South Carolina; Mr. Ken Bostic, WLOS-TV, Asheville, North Carolina; Mr. James Miles, Councilman, City of Greenville, South Carolina, Mrs. Shirley Hill, Director of Emergency Preparedness, Spartanburg, South Carolina; Mr. Michael Phillips, Director of Emergency Preparedness, Greenville County, South Carolina; Mr. Jimmy Wilkens, Director of Emergency Preparedness, Union County, South Carolina; Mr. L. Wayne Broome, Director, Charlotte-Mecklenburg Office of Emergency Preparedness, Charlotte, North Carolina. Committee Publication Numbers 101–9 and 101–48; 10–A.

3.3(i)—U.S. Participation in the International Institute for Applied Systems Analysis (IIASA), Vienna, Austria

Background

The International Institute for Applied Systems Analysis (IIASA), located outside of Vienna, Austria, is a non-governmental research institute sponsored by scientific organizations of more than 20 nations, representing both the Western and communist blocs. IIASA's specialty is applying complex computer models to an interdisciplinary analysis of pressing global problems. Recent projects have focused on environmental problems, such as acid rain and global climate change; population and demographic analysis; the impacts of technology on economic development and environment; and decision sciences.

IIASA was conceived during the Johnson Administration and subsequently founded in 1972 at the initiative of the U.S. and Soviet Union. By tradition, IIASA is headed by an American Direc-

tor and a Soviet Chairman. IIASA is currently funded and supported by scientific institutions and organizations from 16 nations: U.S., U.S.S.R., Austria, Bulgaria, Canada, Czechoslovakia, Finland, France, the German Democratic Republic, the Federal Republic of Germany, Hungary, Italy, Japan, the Netherlands, Poland, and Sweden. IIASA has its own facilities that support visiting research scholars from more than 20 nations. Usually, professional scientists rotate in and out of IIASA on two or three year assignments. IIASA researchers publish their work in the traditional scientific literature and sponsor scientific meetings to discuss research issues and findings.

In 1982, the Reagan Administration charged that IIASA was being used to transfer critical computer technology to the Soviets. While these charges were never proven, and were dismissed by a special National Academy of Sciences (NAS) review, the National Science Foundation (NSF) funding was withdrawn, and the NAS withdrew as liaison because it lacked the resources to support IIASA. Subsequently, the American Academy of Arts and Sciences decided to pick up the responsibility and arranged for the NSF to reinstate some funding. However, NSF funds for IIASA have consisted of programmatic support through peer-reviewed grants to IIASA, rather than the unrestricted funding required for U.S. membership under the IIASA charter.

Following letters from Chairman Roe and other Members of the Committee on Science, Space, and Technology urging the President to "revitalize" IIASA, President Bush announced on December 28, 1989, that the U.S. should provide funding. However, this promise was contingent on an "expectation" that "significant changes in the charter and the research program will be negotiated" during 1990. Negotiations with the National Science Foundation, which has been given the U.S. lead, continued to move slowly and in April of 1990, no new funding had been forthcoming.

Hearings

On April 18, 1990, a joint hearing was conducted by the Subcommittees on Natural Resources, Agriculture Research and Environment; International Scientific Cooperation; and Science, Research and Technology. Testimony was heard from Dr. Robert Pry, Executive Director, International Institute for Applied Systems Analaysis; Dr. Peter de Janosi, U.S. Member, IIASA Governing Council, American Academy of Arts and Sciences; Dr. Thomas Ratchford, Associate Director for Policy and International Affairs, Office of Science and Technology Policy; and Dr. Karl Willenbrock, Assistant Director for Scientific, Technological, and International Affairs, National Science Foundation. The hearing enabled the Committee to review the appropriate U.S. role in and support for IIASA, particularly taking into account the recent political changes in Eastern Europe and the explosion of international interest on environmental issues. Subsequent to this hearing, an acceptable funding arrangement was negotiated, assuring continued U.S. participation in IIASA. Committee Publication Number 101-110.

3.3(j)—Coastal Environmental Monitoring

Background

The Federal Government spends approximately $20 billion annually to abate water pollution, and though one-third of this money is allocated to coastal areas, only $133 million (6%) is spent on monitoring, and of this the majority is for compliance monitoring as opposed to model validation, basic ecosystem data monitoring, or trend information.

The Committee on Science, Space and Technology has increasingly sought to improve long-term monitoring programs, particularly those that move beyond compliance monitoring toward baseline ecosystem data collection, model validation and trend analysis. Long-term monitoring information is essential to develop useful policy, especially in the densely populated coastal regions of the country.

Excluding Alaska, the coastal land area comprises 11% of the total land area of the U.S. and has a population density in coastal counties four times that of the U.S. average. Over 50% of the U.S. population currently lives along the coast and yet, only a small portion of the our Federal budget is allocated to engage scientists in research and monitoring endeavors within the coastal zone. Problems in these areas will be exacerbated during the next two decades as coastal populations are expected to increase another 15%. Efforts to redress problems created within the coastal environmental need to use research that identifies cause and effect relationships. The Committee supports action to focus attention within the coastal environment by increasing the money spent on research and monitoring activities, particularly for those programs that produce scientific findings easily translated into management programs.

In hearings on national environmental monitoring in 1977 and 1983 before the Committee, representatives of the National Oceanic Atmospheric Administration (NOAA) and the Enviornmental Protection Agency (EPA) testified that little improvement had occurred between these two dates with respect to agency fragmentation, the establishment of long-term monitoring programs, or the development of quality assurance for data that is collected. The Science Committee sought to review these agencies current activities for improved coordination and increased attention to research and monitoring, particularly efforts within the National Estuarine Research Reserve Systems.

Hearings

In response to expressed needs for greater coordination between agencies and increased integration of monitoring efforts, data collection and quality assurance, the Subcommittee on Natural Resources, Agriculture Research and Environment held an oversight hearing on coastal environmental monitoring on June 26, 1988. The aims for this hearing were to review the research and monitoring efforts of four programs as well as the level of coordination among the agencies directing those efforts. The programs include the National Estuarine Reserve System (NERRS) mandated by the Coastal Zone Management Act and administered by NOAA, the

National Estuarine Program (NEP) legislated under the Water Quality Act and administered by EPA, the national monitoring program under NOAA's National Status and Trends (NS&T) Program, and EPA's Environmental Monitoring and Assessment Program (EMAP). In addition the Subcommittee reviewed H.R. 4115, proposed satellite remote-sensing programs for oceangraphic research and the use of satellite technology for fisheries law enforcement and implementation of fisheries conservation programs.

Testimony at the hearing was given by Charles N. Ehler, Director Office of Oceangraphic and Marine Assessment, National Ocean Service, NOAA; Dr. John H. Skinner, Deputy Assistant Administrator for Research and Development, EPA, Washington, DC; Eugene Wright, President, National Estuarine Research Reserve Association and Director, Old Woman Creek National Estuarine Research Reserve, Huron, Ohio; Stephen R. Bliven, Representative for Coastal States Organization and Assistant Director, Massachusetts Coastal Zone Management Office, Boston, Massachusetts; Dr. Christopher N.K. Mooers, Professor, Institute for the Study of Earth, Oceans, and Space, University of New Hampshire; Allan D. Beck, Manager, Narragansett Bay National Estuarine Research Reserve, Prudence Island, Rhode Island; Caroll N. Curtis, Director, Chesapeake Bay National Estuarine Research Reserve System in Virginia, Gloucester Point, Virginia.

A goal of the National Estuarine Research Reserve System (NERRS) is to establish reserve sites, maintain examples of pristine estuarine ecosystems and provide the means to use these systems for research and monitoring. The consensus among testimony was that much more work was needed to fully utilize the NERRS in ongoing coastal monitoring efforts (refer to Committee Report Number 101-144). The Committee on Science, Space and Technology will continue to follow the progress of the use of the Reserves by the four programs and the execution of the newly established long-term data collection plan that NOAA has implemented.

Legislative History

The Coastal Zone Management Act Reauthorization Amendments of 1990, H.R. 4030, was introduced on February 21, 1990 and referred to the Committee on Merchant Marine, and Fisheries, which ordered it reported with amendments on April 18, 1990. July 27, 1990 the Subcommittee on Natural Resources, Agriculture Research, and Environment marked up H.R. 4115, the Ocean and Coastal Programs Authorizations Act of 1990, including amending section 315 of the Coastal Zone Management Act of 1972 which established the National Estuarine Research Reserve System. H.R. 4115 was reported with amendments, by the full Committee to the House on August 30 (House Report No. 101-519 Part II) which passed the bill on October 26, 1990.

The text of H.R. 4450, the Coastal Zone Act Reauthorization Amendments of 1990, which passed the House on September 26, contained similar amendments for the National Estuarine Research Reserve System (NERRS). Reauthorization of NERRS, with amendments, occurred under Subtitle D of Title VI (Section 6214) of the Omnibus Budget Reconciliation Act of 1990 (H.R. 5835) which passed the House October 16 and was signed by the Presi-

dent on November 5, 1990 (Public Law No. 101-508). Committee Publication Number 101-444.

3.4—SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT

3.4(a)—Market-Expanding Coal Technologies

On April 30, 1990, the Subcommittee on Energy Research and Development held a field hearing in Bristol, Virginia. Concerns about emissions from fossil-fueled power plants has led to questions about the continuing role of coal as a resource for future power generation. The abundance of our United States coal supplies make it an important energy resource despite emission concerns.

The Subcommittee held the hearing to look at the development of new coal technologies in terms of a healthy research and development budget and a strong United States coal industry. Testimony was received from the DOE, private companies and a university that has received federal research support. The DOE representatives discussed the federal coal research and development program, including the Clean Coal Technology Program. The innovative coal technologies of microbubble flotation and mild gasification were discussed. Committee Publication Number 101-139.

3.4(b)—Renewable Energy and Energy Conservation Budget Overview

Background

On June 6, 1990, the Subcommittee on Energy Research and Development held a hearing on the status of the DOE's Renewable Energy and Energy Conservation Research and Development Programs. Major areas of interest to the Subcommittee Members were (1) the Department's budget submission for FY 1991, (2) the proposed reorganization of renewable and conservation programs directed toward end users; and (3) the 11 new initiatives proposed by the Department and how they related to ongoing programs.

The FY 1991 DOE budget request reflected a significant change in the Department's outlook toward research and development programs. Previous emphasis had been placed on long-term, high-risk research. The new concept puts an increased focus on mid-term and short-term payoffs. The proposed reorganization would be structured toward the end use sectors of utility technologies; industrial technologies; transportation technologies and building technologies.

Of the 11 initiatives proposed, five would fall within the renewables program: (1) Assessment of Hydropower Facilities and Relicensing Requirements; (2) Manufacturing Technology for Photovoltaics; (3) Solar Detoxification of Hazardous Wastes; (4) Cost-Competitive Ethanol Fuels; and (5) Solar Energy Research Institute Laboratory Construction. Six would fall within the Energy Conservation program, (1) Accelerated Building Guidelines and Standards; (2) Relighting Commercial Buildings; (3) Integrated Resource Planning; (4) Relighting Federal Facilities; (5) Energy from Municipal Waste; and (6) Energy Analysis and Diagnostic Centers expansion program. The Department proposed to utilize existing and reprogrammed funds as much as possible to begin the initiatives. Sub-

committee Members expressed concern that many of the new initiatives were not research and development but that a percentage of research and development funds were proposed to be used for implementation of the initiatives.

A third item of interest to the Subcommittee was the Department's implementation of P.L. 101-218, the Renewable Energy and Energy Efficiency Technology Competitiveness Act of 1989, a bill that originated in the Subcommittee. The Department had drafted the charter for the Joint Advisory Committee and was in the process of preparing the joint venture draft solicitations as called for in the Public Law.

Additional testimony was received from private sector witnesses. Committee Publication Number 101-140.

3.4(c)—Fossil Research and Development

On June 20, 1990, the Subcommittee on Energy Research and Development held a hearing on the DOE FY 1990 budget submission for fossil research and development programs. Testimony was received by the DOE and representatives from the private sector and universities.

The DOE budget submission for FY 1991 was $202 million, a decrease of 51% from FY 1990 appropriated levels. The largest decrease was for coal programs, a 60% decrease from ongoing levels. The Department did request slight increases in oil and gas extraction technology programs in an effort to bring the coal, oil and gas programs into a more consistent balance. In addition, the Department presented three new plans to restructure the federal oil, gas and hydrocarbon research activities.

Outside witnesses from the gas industry presented their alternative proposal for gas-related research and development priorities which represented a $70 million increase above the DOE request for the same activities. Other witnesses provided status reported on fuel cell technology development; eastern oil shale activities; and magnetohydrodynamics technology development programs. Committee Publication Number 101-143.

3.4(d)—Nuclear Fission R&D

The Subcommittee on Energy Research and Development held a hearing on the nuclear energy research and development programs on February 28, 1990. The new Assistant Secretary for Nuclear Energy from DOE testified during this authorization hearing. In addition, testimony was received from several other witnesses representing NASA, the Nuclear Regulatory Commission, national laboratories, industry, public utilities, university nuclear engineering departments and professional societies. The DOE's budget request for FY 1991 was $390.7 million for Nuclear Fission R&D programs; this request was composed of the Light Water Reactor program, the Advanced Reactor Research and Development program, the Space Reactor Power Systems program, Advanced Radioisotope Power Systems, and Policy and Management. The facility category was the single largest component of the Nuclear Energy R&D budget, totaling $140.5 million or 36 percent of the request. Committee Publication Number 101-118, Volume I.

3.4(e)—Fast Flux Test Facility

On March 7, 1990 a hearing was held before the Subcommittee on Energy Research and Development on the Fast Flux Test Facility (FFTF). This information hearing sought to assess the present and future research role of this unique facility in light of the proposal by the DOE to close the FFTF.

The expert witnesses who gave testimony at this hearing included the DOE, Westinghouse-Hanford, the University of Tokyo Department of Nuclear Engineering, and the American Nuclear Society. During the hearing the witnesses from industry, contractors, and universities, as well as professional societies, emphasized the five areas of research which the FFTF is serving, namely: liquid metal reactors, radioactive waste transmutation, fusion, space nuclear power, and isotopes, particularly for medical applications. Committee Publication Number 101-123.

3.4(f)—Basic Energy Sciences

On March 20, 1990, the Subcommittee on Energy Research and Development held a hearing on Basic Energy Sciences. This hearing focused on the status of facilities that produce photons, electrons and neutrons for use in scientific investigations and research and development in the areas such as materials, chemicals, biochemistry and pharmacology. (These are commonly referred to as User Facilities). As a research tool electron and neutron sources play a leading role in the development of new technologies and products. The purposes of the hearing was to assess the adequacy of these facilities, many of which are 30 or more years old and to compare their capabilities with newer facilities in Europe and Japan.

Two major user facilities are currently under construction, the Advanced Light Source at Lawrence Berkeley Laboratory and the Advanced Photon Source at the Argonne National Laboratory. Other major user facilities are in the design and planning phases.

Providing testimony to the Subcommittee were representatives of the DOE who presented an overview of the Basic Energy Sciences budget request for FY 1991 as well as information specific to the neutron and electron user facilities. In addition, the Subcommittee heard from representatives of the Argonne National Laboratory, the Lawrence Berkeley Laboratory, the Brookhaven National Laboratory, the Oak Ridge National Laboratory, and the Rhode Island Atomic Energy Commission, the University of Illinois and the Naval Research Laboratory.

The total FY 1991 DOE request for Basic Energy Sciences was $648.7 million. Committee Publication Number 101-134.

3.4(g)—The Role of the DOE's National Laboratories in Science, Mathematics and Engineering Education

The Subcommittee held two hearings on the Role of the Department of Energy's National Laboratories in Science, Mathematics, and Engineering Education. A field hearing was held in Albuquerque, New Mexico, on March 16, 1990, and the second hearing was held on June 13, 1990 in Washington, D.C.

The DOE requested funding of $29,760,000 in its Fiscal Year 1991 budget proposal. While this resulted in an increase in funding for science, mathematics, and engineering education programs, it also eliminated the Nuclear Engineering Education and Research Program budget. This valuable progarm has been strongly supported by Congressional Committees in the past.

On March 16, 1990, the Subcommittee held a field hearing in Albuquerque, New Mexico. Five Subcommittee Members attended. Witnesses included representatives from: Four DOE national laboratories; two universities; a state department of education; a local school district; an elementary school teacher; and a high school student.

As with the hearing held in the First Session, this hearing revealed a wide gap exists between the laboratories' developed activities and outreach programs and the public school systems. At the unversity level, there is much more exchange. The laboratories' representatives each outlined the agency wide educational programs and continued with details of individual laboratory developed educational programs. Each laboratory is responding to local and regional issues as well as the targeting of different minority groups. Enthusiasm at the laboratories and universities for these programs and future programs is very high. Committee Publication Number 101-132.

On June 13, 1990, the Subcommittee held its second hearing on the Role of DOE's National Laboratories in Science, Engineering and Mathematics Education. Witnesses for this hearing, held in Washington, included representatives from the DOE, three national laboratories, and two university consortia.

Testimony discussed the benefits of "hands on" science and laboratory experiences to classroom teachers and to students. Expoure to careers in science is very limited for many school-age children. Frequently, that exposure is limited to doctors and professionals in either health care fields or teaching. It has benefited many students to see laboratories first hand and to talk with working scientists. DOE and its laboratories offer mentoring programs at the high school level. Committee Publication Number 101-138.

Suggestions and recommendations coming from both of the above hearings and from the hearing in the First Session resulted in legislation. H.R. 5615 was introduced on September 13, 1990, by Chairman Lloyd. The measure was originally cosponsored by every Member of the Subcommittee and the Committee Chairman.

At the close of the 101st Congress, provisions similar to H.R. 5615 were included in H.R. 996 and H.R. 4739, which are discussed elsewhere in this report.

3.5—SUBCOMMITTEE ON SPACE SCIENCE AND APPLICATIONS

3.5(a)—Space Policy Recommendations to the President's Transition Team

Background

The Subcommittee held two days of hearings, Febraury 8, 9, 1989 on the sapce policy recommendations to the President's transition team. Prior to the 1988 Presidential election, several public and

private organizations have developed in-depth studies of the structure and direction of America's space effort. They have examined various aspects of America's space program including its organizational infrastructure, its specific long-range technical goals, the prospects for wider private sector participation, and its international role. These studies present a broad array of options for the new Administration to revitalize the space program.

The principal witnesses on February 8 were: Mr. David L. Bodde, Executive Director, Commission on Engineering and Technology Systems, National Research Council; Dr. H. Guyford Stever, Chairman, Committee on Space Policy, National Research Council; Dr. James Morrison, Project Director, Space Policy Study, Center for Strategic and International Studies; Mr. David C. Acheson, Senior Consultant, Space Policy Study, Center for Strategic and International Studies; Mr. Gilbert Rye, Vice President and General Manager, Space Systems and Technology, DBM International, Inc.; Dr. Charles D. Walker, Special Assistant to the President, McDonnell Douglas Astronautics Company.

On February 9th the wintesses were: Dr. John M. Logsdon, Director, Space Policy Institute, George Washington University; Dr. John L. McLucas, Chairman of the Board, Questech; Dr. John Clark, NAV/Space Research Chair, Aerospace Engineering Department, U.S. Naval Academy; Dr. Simon Serfaty, Executive Director, Johns Hopkins Foreign Policy Institute; Dr. Paul Blanchard, President, Space Research Management, Inc.; Dr. George A. Seielstad, Assistant Director for Green Bank Operations, National Radio Astronomy Observatory; Mr. Thomas Rogers, President, The Sophron Foundation.

Sumary of the Hearing

The Committee on Science, Space, and Technology has strongly supported the need for long-range goals for the space program in order to rebuild the national consensus that was the underlying success of the Apollo program. These hearings reexamined this need in the context of the present budgetary and political climate. Committee Publication Number 101-1.

3.5(b)—NASA Technology Spin-Offs

On April 13, 1989, the Subcommittee held a hearing which featured NASA technology commercially applied in a variety of fields including medicine, agriculture, energy, environment, public safety, and entertainment. Numerous demonstrations, slides, and video presentations were exhibited. Members and the audience were permitted to browse among the demonstrations of the technology spin-offs. Committee Publication Number 101-47.

3.5(c)—Review of the President's Proposal for Mars and Lunar Missions

Background

The Subcommittee held a hearing on September 26, 1989 to review President Bush's proposal for a Mars and Lunar Mission. Principal witnesses were: Admiral Richard Truly, Administrator,

NASA; Harlan J. Smith, Professor of Astronmy and Director of McDonald Observatory, University of Texas; Bruce C. Murray, Professor of Geological and Planetary Science and California Institute of Technology; David C. Black, Director of the Lunar and Planetary Institute, NASA Ames Research Center.

Summary of the hearing

The purpose of the hearing was to consider the necessary technologies and other institutional changes that must be made in order to carry out a Mars and Lunar Mission initiative. Specifically, the hearing addressed the scientific, technological and social benefits of the proposal; the priority of the Lunar and Mars missions; the effect the President's proposal will have on the present Space Station design, and consider the implications of international cooperation. Committee Publication Number 101-78.

3.5(d)—To Review the Aerospace Safety Advisory Panel Annual Report

Background

On September 28, 1989, the Subcommittee held a hearing to review the Aerospace Safety Advisory Panel's annual report. The Aerospace Safety Advisory Panel (ASAP) was created by Congress in the wake of the spacecraft fire that killed the crew of Apollo 204 in 1967. ASAP is charged with the responsibility for reviewing the safety related aspects of all of NASA's programmatic activities and then reporting its findings and recommendations to the NASA Administrator on an annual basis. Principal witnesses at this hearing were: Mr. Joe Sutter, Chairman, Aerospace Safety Advisory Panel and Dr. J.R. Thompson, Deputy Administrator, NASA.

Summary of the hearing

The hearing explored several issues raised in the ASAP report including: Space Shuttle safety; the need for the Advanced Solid Rocket Motor; viability of the Space Shuttle launch schedule; and safety aspects of the Space Station. Committee Publication Number 101-69.

3.5(e)—Review of the Voyager Missions

Background

On October 4, 1989, the Subcommittee held a hearing to review the Voyager flyby of Neptune. In addition to examining the recent discoveries made by Voyager II at Neptune, the witnesses presented the history of the Voyager missions and their contribution to science. Voyager I and II, taking advantage of a rare alignment of the solar system, toured the four giant outer planets: Saturn, Jupiters, Uranus, and Neptune. Principal witnesses were: Dr. Lennard Fisk, Associate Administrator, Office of Space Science and Applications, NASA; Dr. Lew Allen, Director, Jet Propulsion Laboratory; and Dr. Edward C. Stone, Project Scientist for Voyager, California Institute of Technology. Committee Publication Number 101-66.

3.5(f)—Implementation of the Commercial Space Launch Act

Background

The Subcommittee held a hearing on November 9, 1989 to examine the Commercial Space Launch Act and related legislative actions. Various Congressional, Administration, and commercial launch industry witnesses testified regarding implementation of the Commercial Space Launch Act and its amendments. The witnesses were: Congressman Ron Packard of California; Congressman Jim Kolbe of Arizona; Stephanie Lee-Miller, Director, Office of Commercial Space Transportation, Department of Transportation; Mr. Joe Mahon, Deputy Associate Administrator, Flight Systems, NASA; Mr. George R. Schneiter, Acting Deputy Director, Defense Research and Engineering, Strategic and Theater Nuclear Forces, Department of Defense; Mr Donald K. Slayton, Vice Chairman, COMSTAC and President of Space Services, Inc.; Mr. Dennis Dunbar, Subcommittee on procurement/COMSTAC, Vice President, programs and Technical Operations, Commercial Services Division, General Dynamics Corporation; Mr. James C. Bennett, President, American Rocket Company and Dr. C. J Waylan, President, GTE Spacenet.

Summary of the hearing

Agencies and industry expressed support for streamlining the government's procurement process. One main goal of the hearing was to distinguish the differences between a government and non-government launch. Notably, the government witnesses were in disagreement on this point

Mr. Nelson noted that the Department of Transportation's Office of Commercial Space Transportation (OCST) has not yet: (1) issued regulations for requirements to purchase liability insurance, (2) taken an active role in the launch readiness review process for commercial space launches, or (3) verified reciprocal waivers and insurance policies. He urged OCST to initiate these tasks immediately.

The industry witnesses cited disagreement among governmental agencies, slow government approval process, and unnecessary specifications required for government procurement of launch services as adversely affecting the commercial launch industry. Committee Publication Number 101-98.

3.5(g)—The Future of the U.S. Space Program

On July 23, 1990, the Subcommittee on Space Science and Applications held a field hearing on the Future of the U.S. Space Program in St. Louis, Missouri. Witnesses from the government, academia and the private sector testified on a broad range of topics relating to future U.S. activities in space. The witnesses were divided into three panels.

Panel I discussed the future of space commercialization and how space spin-offs have contributed to our quality of life. The witnesses were: Dr. Charles Walker, McDonnell Douglas Corporation; and Mr. James T. Rose, Assistant Administrator, Office of Commercial Programs, NASA.

Panel II focused on expendable launch vehicle issues. The witnesses were: Mr. Alan Kehlet, Vice President/Deputy General Manager, McDonnell Douglas Space Systems Company; Dr. Alan Lovelace, General Dynamics, Commercial Launch Services; and Ms. Stephanie Lee-Miller, Director, Office of Commercial Space Transportation DOT.

Panel III addressed the relationship between the nation's space program and educational system. The witnesses were: Dr. Dennis Wint, President, St. Louis Science Center; Dr. Dean Marti Israel, Washington University; and Dr. Robert Walker, Director, McDonnell Center for Space Sciences. Committee Publication Number 101-158.

3.5(h)—International Cooperation in Earth Observing Systems

On July 24, 1990, the Subcommittee on Space Science and Applications and the Subcommittee on International Scientific Cooperation held a joint hearing on International Cooperation with NASA's Earth Observing System (EOS).

The Earth Observing System program is the major space-based portion of the U.S. effort to monitor and quantify global environmental change over the next several decades. The entire NASA program is anticipated to cost betwen $17-$30 billion, according to Administration estimates. More than half of the program's cost will be for data collection and management. The remaining forty percent of the program's cost will be for development, launch, and management of the space platforms and instruments.

NASA is coordinating the U.S. program with similar foreign programs so that both the costs and benefits of space-based environmental monitoring can be shared on a global level. Japan, the European Space Agency, and Canada have already made substantial commitments in Earth Observation and their views on international cooperation were incorporated into the hearing record.

The hearing consisted of two panels. The following government witnesses testified on Panel I: Dr. Shelby G. Tilford, NASA; Dr. Robert W. Corell, National Science Foundation and the Committee on Earth Sciences; and Dr. J. Thomas Ratchford, Office of Science and Technology Policy. Testimony centered on the plans for the U.S. Earth Observing System and its relation to international activities in space-based environmental monitoring. Existing and planned institutional arrangements and coordinating mechanisms were also reviewed.

Panel II consisted of the following private sector witnesses: Dr. D. James Baker, Joint Oceanographic Institutions; Prof. John H. McElroy, College of Engineering, University of Texas at Arlington; Dr. Frederick B. Henderson, The Geosat Committee; and Dr. John A. Dutton, College of Earth and Mineral Sciences, Pennsylvania State University. Emphasis was given to user requirements, both scientific and commercial for space-based environmental data. There was discussion of current and planned procedures for receiving user input to the U.S. and international Earth observing systems.

The Subcommittees expressed their belief that continued coordination of the U.S. and international plans and activities in space-

based environmental monitoring is essential and should be pursued. Committee Publication Number 101-159.

3.5(i)—Space Station Preliminary Design Review

On September 27, 1990, the Subcommittee on Space Science and Applications held a hearing on the Space Station Preliminary Design Review. NASA expressed the view that the Space Station program had a good year, with progress in various areas. For example, tests of engineering hardware for the environmental control system had been successful. The integrated Space Station Preliminary Design Review, which will be conducted by NASA and its contractors is scheduled to be completed in December 1990.

The following witnesses testified at the hearing: Dr. William B. Lenoir and Mr. Richard Kohrs, Space Station Office, NASA; and Dr. Jack Kerrebrock, Massachusetts Institute of Technology, testified on behalf of the Space Station Advisory Committee.

The main discussion points of the hearing were:

Assembly and maintenance requirements of Space Station Freedom are still tentative, pending completion of more detailed design of the Space Station components.

NASA testified that there were no definite plans for an advanced space suit. However, Dr. Kerrebrock indicated that the Space Station Advisory Committee believed an advanced space suit would be most beneficial and efficient for maintenance of the Space Station Freedom.

NASA's External Maintenance Task Team and the Space Station Advisory Committee have concluded that the use of Space Station robotics for maintenance could potentially reduce activity requirements but would not reduce total demands on crew time.

NASA indicated that funding cuts to the Space Station program would require adjustments in schedules and in content, with the impact dependent on the size of the cuts to be accommodated. Dr. Lenoir stated that he would like to maintain the schedule for the first assembly flight, if at all possible.

While voicing its support for an international Space Station, the Subcommittee expressed concern that the Space Station Freedom program needed to provide sufficient margins in design and in operational plans. Recognizing the budgetary uncertainties facing the program, the Subcommittee nevertheless was uncomfortable with the "success-oriented" nature of aspects of the Space Station development activity. Finally, Subcommittee Members strongly supported the need for an advanced space suit.

3.5(j)—Earth Observing System

On October 2, 1990, the Subcommittee on Space Science and Applications held a hearing on the Earth Observing System, (EOS). The Earth Observing System is a major new NASA initiative for fiscal year 1991. Examining the earth as a complete system, it will be a complex, long-term effort to gain a fifteen-year data base on atmospheric, oceanic, and geological interactions.

The focus of the hearing is to review the objectives and status of the EOS program, as well as the major technical and programmatic issues. The findings and recommendations of the National Re-

search Council's recent released report on EOS and the U.S. Global Change Research Program will be examined as a part of the review. The hearing was divided into two panel sessions.

The witness for Panel I was Dr. Lennard A. Fisk, Associate Administrator, Office of Space Science and Applications, NASA. Dr. Fisk addressed the status of the EOS program. He indicated that planning was proceeding, and that instruments selected for the EOS-A platform would be announced within the next several weeks. He also addressed the rationale for the components of the program, and he also discussed the impacts of funding cuts.

The witnesses for Panel II were: Dr. William Bishop, Space Studies Board, Committe on Earth Studies, Desert Research Institute; and Dr. John A. Eddy, Chairman, University Corporation for Atmospheric Research. The witnesses described the results of the reviews of the U.S. Global Change Research program and the EOS program that were conducted by the National Research Council. The reviews also raised a number of issues and concerns related to the implementation of the EOS program, including the need for a vigorous set of precursor missions.

The Subcommittee expressed its strong support for the goals of the EOS program and indicated that the implementation of EOS would receive significant oversight over the life of the development program.

3.5(k)—Commercial Space Launch Industry

On November 30, 1990, the Subcommittee on Space Science and Applications held a field hearing at Kennedy Space Center, Florida, on the Commercial Space Launch Industry.

The purpose of the hearing was to address a broad range of commercial space issues to explore what assistance Federal and State Governments can provide to help maintain U.S. competitiveness, and also what individual corporations are doing to upgrade their commercial services. The hearing will also examine issues relating to state-sponsored space programs, the Eastern Space and Missile Center, commercial launch providers and satellite manufacturers. The impact of international competition also will be addressed.

The following witnesses testified at the hearing on Domestic Issues. Panel 1—Government agencies: Mr. Edward Frankle, General Counsel, NASA; Mr. Richard McCormick, Deputy Assistant Secretary of the Air Force, Space Plans and Policy, DOD. Panel 2—Launch companies; Mr. Charles H. Lloyd, Vice President and Managing director, Commercial Launch Services, General Dynamics Corporation; Mr. Samuel K. Mihara, Staff Director, Marketing Delta Launch Vehicle Division, McDonnell Douglas; Mr. Gilbert Rye, Senior Vice President, Business Development, Orbital Sciences Corporation. Panel 3—State spaceport: Mr. Edward A. O'Connor, Jr., Executive Director, Florida Spaceport Authority; Mr. Frederick Spreyer, Washington Representative, Hawaii space Development Authority.

The following witnesses testified at the hearing on International Competition: Mr. Joseph D. Mirth, Senior Vice President, United Space Boosters, Inc.; and Mr. Joseph DelRiego, Director of Marketing, Space and Communications Group, Hughes Aircraft Company.

The Committee gained an in-depth appreciation of the customer relationships and its influence on the international launch services market. In addition, the subcommittee developed an understanding of the economic conditions under which a privately financed spaceport would be feasible. Generally, such a spaceport would only be practical if the small satellite launch market developed substantially.

3.6—SUBCOMMITTEE ON INTERNATIONAL SCIENTIFIC COOPERATION

3.6(a)—Foreign Oversight Activities (Asia/1989, Paris Air Show, Australia)

There were three official foreign Committee oversight trips during the 101st Congress.

During the period of August 5 through August 15, 1989, the Committee traveled to Thailand, Korea, and Hong Kong to review science and technology programs and policies. In Korea and Thailand, discussions were held on the ongoing science and technology agreements that these countries have with the United States. In Hong Kong, a series of meetings were held with British Government officials, Hong Kong Government officials, and U.S. State Department personnel from both Hong Kong and Beijing. These meetings focused on the tenuous position of Hong Kong in the wake of recent turmoil in China and on Hong Kong's projected transfer in 1997 from British Crown Colony to Special Administrative Region of the People's Republic of China. Committee publication: October 1989, Serial H.

The Committe attended the Paris Air Show in August of 1990 to observe state-of-the-art aerospace equipment. During the visit, several meetings were held with members of the British parliament to discuss science and technology programs and to promote an interparliamentary exchange program. Committee publication to be printed.

An oversight review of science and technology programs and policies in Pacific Rim Counties was conducted during the period of November 8 through November 23, 1990. the review included a series of policy meetings with key science and technology officials in both Australia and New Zealand. In Australia, the focal point of the Codel's visit was space cooperation, particularly pertaining to the proposed Cape York Spaceport project. In New Zealand, the delegation reviewed the U.S. Antarctic program, which is logistically based in Christchurch. Following these meetings, the delegation met with key U.S. officials in Hong Kong to review the status both of Hong Kong's political and economic situation and of U.S./China relations. Committee publication to be printed.

3.6(b)—Non-Federal Participation in the Superconducting Super Collider

A continuing consideration in the determination of the total federal outlays for the proposed Superconducting Super Collider is the potential for foreign contributions to the project. The Administration, in its budget submission to the Congress for Fiscal Year 1990,

established a goal of one-third non-federal participation in the project.

The purpose of the March 8, 1989 hearing was to review the progress the Department of Energy had made in seeking foreign contributions to the project and to receive testimony on H.R. 1195, "The SSC Non-Federal Contribution Act," introduced by Mr. Hall, Mr. Barton and Mr. Packard. Two witnesses appeared before the Committee: Dr. James M. Decker, Deputy Director of the Office of Energy Research, U.S. Department of Energy; and Thomas W. Luce III, Chairman, Texas National Laboratory Research Commission.

Dr. Decker discussed the status of initial contacts with foreign governments on contributions to the project and outlined the mechanisms to be used for coordinating the involvement of relevant federal agencies and the scientific community. Mr. Luce, on behalf of the agency charged with the administration and disbursement of the more than $1 billion in state contributions to the project, offered to advance up to one-third in value of the amounts appropriated by the Congress for each of the next two fiscal years in complete fulfillment of the Administration's goal of one-third non-federal participation in the project. The offer was made to provide time for DOE to enter into definitive agreements with foreign governments for participation in the project.

As a result of these hearings, amendments to H.R. 1195 were prepared to provide for the Texas offer, and were ultimately included in H.R. 4380, the "Superconducting Super Collider Project Authorization Act of 1990". Committee Publication Number 101–13.

3.6(c)—Hearing on Technology Transfer Implications of the U.S./ Japan FSX Agreement

On April 6, 1989, a joint hearing by the Subcommittee on Investigations and Oversight, the Subcommittee on International Scientific Cooperation, and the Subcommittee on Transportation, Aviation, and Materials was held to discuss the agreement between the United States and Japan to co-develop the next generation Japanese fighter aircraft (the Figher Support-Experimental or FSX), which will be based on the F–16 produced by General Dynamics. Testimony was taken from non-governmental witnesses on the level of technology and know-how that will be transferred between the two countries under the FSX agreement; who will benefit in the U.S.; what each country will gain technologically in advanced materials, avionics, computer codes, aircraft design, manufacturing technology, and systems integration; the experience Japan will gain and its application to their commercial aircraft industry; and the possibility of the FSX agreement enabling Japan to erode some of the U.S. lead in civil and military aviation. Committee Publication Number 101–62.

3.6(d)—Hearing on the Inter-American Scientific Cooperation Act of 1989

As opportunities for science and technology cooperation between the United States and Latin America have decreased in the past two decades, Latin Americans have looked more frequently to

Europe and Japan for advanced training and research. These trends have led to proposals, both by the Congress and the scientific community, to reinvigorate Inter-American scientific cooperation.

The Subcommittee held a hearing on May 2, 1989, to consider H.R. 2152, the "Inter-American Scientific Cooperation Act of 1989". The Act would increase the level of science and technology cooperation between the United States and Latin America through the establishment of the Inter-American Scientific Cooperation Program in the National Science Foundation.

The Program's activities would focus on joint research projects, scholarly and educational exchanges, investigation of innovative financing, coordination of programs which utilize unique national environments or research facilities.

Appearing before the Subcommittee to comment on the proposed legislation were witesses from the scientific community as well as a former ambassador. Testimony indicated that although the position of the United States in science and technology in Latin America has slipped, Latin American interest in cooperation with the United States remains strong. In addition, science and technology cooperation can continue to be an avenue for the United States to contribute to the economic development and potential stability of Latin America. Committee Publication Number 101-41.

3.6(e)—Hearings on the Future of the Landsat System

Background

The long-term survival of the U.S. civilian land remote-sensing program (Landsat) has been in jeopardy throughout the 1980's, despite the passage in 1984 of P.L. 98-365, which provided for a smooth, ten-year transition of Landsat from the government to the private sector. Currently, funding for operations of existing satellites (Landsats 4 and 5) is on a month-to-month-basis, launch of Landsat 6 has been delayed until 1992, and there is no agreement on how to proceed on Landsat 7.

In 1987, at the direction of Congress, the Administration commissioned three outside reviews of the prospective markets, technologies, and financing options for land remote sensing. In March of 1989, the National Space Council also began an extensive review of remote sensing.

Hearings

The Subcommittee on International Scientific Cooperation held a joint hearing with the Subcommittee on Natural Resources, Agriculture Research and Environment on May 9, 1989, on the long-term future of the Landsat system.

The Subcommittees reviewed the three outside Landsat marketing studies and heard testimony from the contractors for those studies. Representatives of the satellite remote-sensing systems of the Soviet Union, France, and Japan, as well as witnesses from the scientific community, discussed future remote-sensing options. The Subcommittees also considered the growing international capabilities in remote sensing, including the possibility of international co-

operation through bilateral and multilateral consortia. Committee Publication Number 101-40

3.6(f) High-Definition Television: International HDTV Standard-Setting Process and Role of International Standards on U.S. Competitiveness

During 1989, several bills were introduced in the House to help American companies gain a competitive foothold in high-definition television (HDTV): H.R. 1024 (Mr. Boucher); H.R. 1025 (Mr. Edwards of California); H.R. 1267 (Mr. Ritter); H.R. 1516 (Mr. Brown of California); and H.R. 2287 (Mr. Levine). Other bills were introduced in the Senate.

The posture of the United States on the development of an international HDTV production standard is likely to be a critical factor in the long-term competitiveness of the nascent U.S. HDTV industry. The choice of a domestic or international production standard could "lock in" a certain level of technology, impact the conversion rate to new technologies, and dictate what technologies need to be developed by a U.S. HDTV consortium.

The May 31, 1989 hearing explored the policy options related to the international standards issue. Specifically, the hearing reviewed the current status of international HDTV standards development and assessed the consequences of adopting an international production standard on revival of the U.S. consumer electronics industry. The hearing also explored the implications for U.S. competitiveness of not supporting a specific production standard until a U.S. transmission standard has been developed. The hearing was intended to contribute to legislation being drafted to promote development of a U.S. HDTV industry and legislation modifying the current HDTV international production standard-setting process. Committee Publication Number 101-42.

3.6(g)—International Technology Transfer

Background

U.S. companies are increasingly forming joint ventures with "foreign companies" to access technology which would be more expensive to develop from scratch. The scientific community also operates on a global scale, because in basic and pre-competitive research, collaboration results in less duplication of effort, faster advancement of science, and lower costs. The complexity of today's global problems, the limited amount of scientific talent, and scarcity of funding means that large scale multi-national programs are even more likely to occur in the future.

On the one hand, this growing global and "borderless" nature of business and science may conflict with U.S. efforts to increase its national competitiveness through federal R&D and the funding of consortia of U.S. companies. But on the other hand, any efforts to restrict foreign access to federally funded research and development could choke off the free flow of information in the science and business communities and create a backlash against U.S. access to foreign technological sources.

Recent legislation supports a trend to limit foreign access to U.S. technology and to obtain symmetrical access to foreign technology. Federal agencies are now required to consider these issues when negotiating cooperative research or licensing agreements with foreign persons or industrial organizations controlled by a foreign company or government.

Hearing

The Subcommittee on International Scientific Cooperation convened on July 19, 1989 to take testimony on Section 5171 of the Trade Act of 1988, the Stevenson-Wydler Technology Innovation Act of 1980 as amended, and Executive Order 12591 with regard to foreign access to federally-funded technology and U.S. access to foreign technology.

The following agencies provided witnesses: Department of Commerce, Department of State, Department of Energy, National Aeronautics and Space Administration, and the Office of the Secretary of Defense, accompanied by the Defense Advanced Research Projects Agency (DARPA).

The Subcommittee requested witnesses to examine three major areas with regard to commercially promising federally-funded science and technology: (1) the *current level* of foreign access to U.S. science and technology in comparison to U.S. access to foreign science and technology, (2) the *desirable level* of foreign access to U.S. science and technology, and (3) how access, and balance of access, to science and technology between the U.S. and foreign countries is monitored and administered by these agencies.

Each agency reported its practices and actions taken in this area since implementation of the relevant Acts and the Executive Order. Committee Publication Number 101-70

3.6(h)—Global Change

Background

Human technological, industrial, and agricultural activities, coupled with rapidly increasing world population, may be producing global changes which are unintended, undesirable, and unpredictable. Many federal agencies are engaged in research and assessment activities which contribute to our knowledge of global environmental processes and global change. Several international leaders have publicly announced their deep concern that human activities are threatening the global environment. At the 1989 Economic Summit in Paris, global environmental issues figured prominently in the discussions.

General agreement exists that policies for predicting, preventing, mitigating, and adapting to global change must be based on solid scientific research. And the recent surge in national and international attention to global environmental issues has created the need to develop a more formal coordination mechanism than presently exists.

On July 24, 1989, Chairman Roe introduced the "Global Change Research Act of 1989" to address these needs. Title I of H.R. 2984 would established the National Global Change Research Program under the Committee on Earth Sciences (CES). Title II of H.R. 2984

would establish international protocols: 1) to spread the costs for major research programs throughout the industrialized world and to provide training and research opportunities for developing would scientists; and 2) to focus the development of environmentally safe energy technologies, including those for increasing energy efficiency, improving nuclear energy, and for increasing the reliance on renewable energy sources.

Summary of Hearing

A joint hearing was held on July 27, 1989 by the Subcommittee on International Scientific Cooperation and the Subcommittee on Natural Resources, Agriculture Research, and Environment. Four panels of witnesses (representing the Federal Government, academia, the environment community, and industry) were asked to provide comments and reactions to the proposed legislation, with particular focus on: 1) the Committee on Earth Sciences (CES), 2) international initiatives in global change, 3) the Administration's plans for addressing the global change issue at the international level and 4) coordination in global change research among government, academia, and industry, both within the United States and internationally.

Testimony indicated a need to develop a full picture of international spending to understand global change, to synthesize and integrate scientific information for use in decision making, and to create an overall framework to analyze existing information and drive future scientific research on global change.

For further legislative action, see section on P.L. 101-606. Committee Publication Number 101-74

3.6(i)—Science and Technology Initiatives in Poland and Hungary

Developments in Poland and Hungary and later in other Eastern bloc countries during 1989 showed a dramatic trend toward greater economic and political freedom. A number of bills were introduced by Members as well as on behalf of the Administration (e.g., H.R. 3307, H.R. 3402). These bills recognized the possible opportunities to assist Poland and Hungary in building an infrastructure that will support western-style economies and pull them into our sphere of influence.

The Administration bills did not directly address the need to provide additional assistance in the science and technology areas beyond the approximately $3 million included for carrying out the U.S.-Polish Science and Technology Agreement for Fiscal Years 1990 and 1991, although other bills provided for additional funding beyond FY92. Elements of all of the aid packages have strong science and technology components that are of interest to the Subcommittee.

In its October 12, 1989 hearing, the Subcommittee reviewed all of the Poland-Hungary initiatives that have implications for the jurisdiction of the Committee, as well as barriers to accomplishing the goals and objectives of the bills. Particular attention was paid to provisions in science and technology; energy; environment; technology transfer; and science, engineering and management education and training to identify any additional elements that should be in-

cluded in the legislation before the House. Committee Publication Number 101-95

3.6(j)—International Cooperation in Mapping the Human Genome

The initiative to map the human genome will be a missive "big science" undertaking, currently estimated to cost at least $3 billion over a fifteen year period. For Fiscal Year 1990, $88 million has been appropriated.

Once completed, the map will provide a complete set of chemical instructions for a human being. The medical benefits from having the map offer great worldwide potential.

The Subcommittee's hearing of October 19, 1989 examined several aspects of the genome initiative: the status of foreign genome-mapping activities; the status of activities to promote international cooperation in mapping the genome; the appropriate level of international involvement and financial "burden-sharing" in the mapping effort; and the implications of international cooperation on U.S. scientific and industrial competitiveness. Committee Publication 101-87.

3.6(k)—What is a U.S. Company?

Background

Many corporations today act on a worldwide basis regardless of their country of incorporation. They operate around the globe, distributing jobs, products, and even tax dollars where it is in their best corporate interest to do so. Some American-owned companies manufacture most of their products abroad. Some foreign-owned companies perform research and make products in the USA. The variety of forms of business alliances and institutional investments make it difficult even to determine the ownership of a corporation.

Return to the national U.S. economy is the crucial factor in deciding what companies can participate in Department of Commerce cooperative research programs. The benefits can be measured in terms of contributions to tax revenues, exports, domestic employment, domestic content and a host of other criteria.

It would be useful to have criteria to determine which firms should be allowed to participate in U.S. government-aided consortia that encourage and facilitate technology transfer, or are designed to make the U.S. more competitive. This issue was raised during the Subcommittee's consideration of H.R. 3042, which would authorize government aid to business research consortia to spur the development of advanced technology products, such as advanced television systems.

Hearing

The Subcommittee on International Scientific Cooperation (ISC) initially held hearings on this issue on July 19, 1989 ("International Technology Transfer"). A joint hearing was later held on November 1, 1989, by the Subcommittee on Science, Research and Technology and the Subcommittee on International Scientific Cooperation. For this latter hearing, two panels of witnesses were asked to consider the following points:

(1) What factors should be taken into account in determining which firms qualify for participation in U.S. programs set up to advance competitiveness?

(2) Should limitations be put on U.S.-owned multinational firms that wish to participate in government-aided consortia?

(3) To what extent should the trade and technology policies of the home countries of foreign-owned firms determine whether such firms can participate in U.S. government programs?

(4) Should the Canadian Fair Trade Agreement give Canadian companies special access to U.S. projects?

The Subcommittee also asked for information on policies other nations have implemented to determine participation in similar consortia.

The results of the hearing were used, in H.R. 4329, for development of criteria related to international participation in research consortia. Committee Publication Numbers 101-70 & 101-67.

3.6(l) Committee Meeting with U.S. Department of State Science and Technology Officers

On Septemer 27, 1989, the Subcommittee organized a meeting for Committee Members with approximately 25 members of the Department of State's science and technology diplomatic corps to discuss current issues in science and technology and their relationship to changes in the global marketplace. The annual meeting provides a forum for the science attaches to brief Members on the current situation in science, space, and technology in their respective countries, and for Members to respond with their interests and concerns regarding international science and technology issues.

Chairman Roe opened the meeting by stressing the crucial role played by the science counselors as foreign policy experts and technical specialists. With this being the decade anniversary of the first "Science, Technology and American Diplomacy" report, the Chairman announced the Committee's intention to reexamine the role and responsibility of the science counselors in the rapidly changing global scene, noting that science and technology form the basis for both competition and cooperation with other countries.

The meeting continued with remarks by the Department of State and presentations by science attaches from selected countries. The presentations and subsequent open discussion focused on the plans for a unified European market in 1992; the events in Eastern European countries; the 1997 change in the British-Hong Kong relationship; the outlook on the relationship with the People's Republic of China; and economic, competitive, national security and cooperative aspects of the United States' relationship with countries in the Asian theater.

3.6(m) Images of Earth from Space: Innovative Applications, Advanced Technologies, and New Markets

Background

The short-term future of the United States remote-sensing industry is now secure through the launch of Landsat-6 in 1991. However, open questions remain about the long-term direction of the pro-

gram, including the most desirable configuration of Landsat-7, to be launched in approximately 1996.

Hearing

The Subcommittee on International Scientific Cooperation and the Subcommittee on Natural Resources, Agriculture Research and Environment held a joint field hearing in Riverside, California on February 15, 1990 on the innovative applications, advanced technologies, and new markets of remote sensing. The subcommittees reviewed the long-term direction for the program, including relative roles of public and private sectors, the relation between advanced technologies and market development, and appropriateness of international cooperation in future satellite systems. Witnesses at the hearing were remote sensing experts who use Landsat data on a regular basis in applications ranging from oil exploration to earthquake monitoring. Several of the witnesses discussed the characteristics they would like to see incorporated into Landsat-7. Committee Publication Number 101-103.

3.6(n)—Alternative Transportation Fuels

Background

The current upsurge of interest in alternative fuels in the United States is motivated primarily by concerns for urban air quality, and secondarily by energy security and better trade balances.

The recently passed Clean Air Act establishes a fuel-neutral policy which will allow for market forces and private sector to develop a range of alterative fuels. Cleaner, reformulated gasoline would be mandated in the nine cities with the most severe ozone pollution beginning in 1995. In addition a program for fleet vehicles is included in the agreement. Fleet vehicles covered by the program would be substantially cleaner than conventional vehicles.

The hearing was held to provide information on a number of issues which were and (despite passage of the Clean Air Act) continue to be relevant to attainment of cleaner air in the United States: Which fuels should be promoted? At what rate should they be produced? What role should government play? How should they be introduced?

Other industrialized countries are experiencing similar air quality problems in their large cities and are beginning to move away from traditional petroleum-based transportation fuels. If combusion and fuel production technologies can be moved through the research and development stage and commercialized in this country, there appears to be an enormous opportunity to sell alternative fueled vehicles and/or license the underlying technologies for use abroad.

Hearings

The Subcommittee on International Scientific Cooperation held a field hearing in San Diego County, California on February 16, 1990 to review development of alternative fuel technologies in the United States and overseas. Testimony was received from ten experts including energy officials, industry representatives, and scientific researchers. Methane, compressed natural gas, propane, refor-

mulated gasoline, electricity, and hydrogen were alternative energy sources discussed. In addition to their pollution reduction potential, each alternative was reviewed for economic impact and marketability.

There was general consensus among the witnesses that government and industry policy should remain open to all alternatives consistent with the Clean Air fuel-neutral policy.

United States development of alternative fuel technologies was observed by most witnesses to be on par with, or ahead of other industrialized nations. However, it was also noted that Europe and Japan are actively engaged in electric vehicle development efforts, and that the Soviet Union is striving to develop greater usage of one of their greatest natural resources, natural gas. Committee Publication Number 101-108.

3.6(o)—Science, Technology, and American Foreign Policy

Background

Congress enacted Title V of Public Law 95-426 in 1978 to strengthen policy and organization for science, technology, and diplomacy in the State Department. The legislation charges the President with "improving coordination of all U.S. Government international scientific and technological activities and overall foreign policy" and "directs the Secretary of State to assist the President by being his agent in the coordination and oversight of international scientific and technological activities of the U.S. Government." (See CRS report dated March 14, 1990 for a full history of Title V and related legislation.)

The worlds of science and technology and the world at large have changed dramatically since the enactment of Title V twelve years ago. Political changes in the Soviet Union and Eastern Europe, the impending economic integration of the European Community, and technological challenges from Japan are indicative of the international challenges facing U.S. institutions. Within the U.S., the need for fiscal restraint makes it increasingly attractive to "share the burden" with other nations in important research areas such as high-energy physics, space, genetics, and health.

These trends are prompting debate as to how well the U.S. is managing its scientific and technological assets internationally. The debate surfaced during 1990 in the press, in academic institutions, in private foundations and "think tanks," and within the Administration. The Office of Science and Technology Policy is producing an assessment of how international science and technology policy in the U.S. can be improved and made more consistent.

Hearings

Two hearings were held during 1990 on "International Science and Technology and Foreign Policy." The purpose of the hearings was twofold: 1) to assess whether P.L. 95-426 is being implemented effectively and creatively by the Federal government and 2) to assess whether modifications are needed to the legislation to accommodate changes in the global political and economic landscape.

Related interests of the Subcommittee have been how effectively U.S. science and technology policies support: 1) the principle of re-

ciprocal access to foreign scientific and technological knowledge, 2) international protection of intellectual property rights, and 3) U.S. foreign policy objectives.

The first hearing (April 4, 1990) featured a panel of non-governmental witnesses (two of whom are appointed members of the Department of State's OES Advisory Committee). Witnesses were asked to comment both broadly—on how well the United States is doing with its international science and technology initiatives—and more narrowly on how the agency process for these initiatives is functioning.

Testimony was taken at the second hearing (April 26, 1990) from Administration witnesses, who described U.S. government initiatives in international S&T policy and responded to specific suggestions raised in the first hearing.

Information developed in the hearings included a variety of recommendations for new policies and legislation regarding international science and technology agreements. Some of the ideas that may receive future consideration by the Science Committee include:

a. Increasing emphasis on S&T reporting, perhaps by mandating a greater role for the Department of Commerce in disseminating foreign scientific knowledge to U.S. industry;

b. Setting priorities for bilateral and multilateral science and technology initiatives;

c. Establishing a consistent mechanism for foreign participation in "big science" projects; and

d. Further development of the science policy profession within the State Department. Committee Publication Number 101-133

3.6(p)—Science, Technology, and American Diplomacy

The Subcommittee continued its oversight pertaining to Title V, Section 503(b) of the P.L. 95-426. One requirement of the statute is that the Department of State prepare and submit to Congress an annual report reviewing international science and technology activities of federal agencies, including funding data and highlights of developments and activities in bilateral and multilateral agreements or protocols during the year. The Trade Bill of 1988 also requires that the Title V report include an assessment of the extent to which international S&T opportunities are open to U.S. researchers.

The Committee coordinates jointly with the Committee on Foreign Affairs in publishing the Title V report. Over the past five years, the reports have undergone a number of revisions reflective of concerns expressed by the two Committees and by interested parties both inside and outside the U.S. government. In the ninth edition in 1988, for example, the analytical text was shortened and more emphasis was given to tabular presentations. This trend was continued in the Tenth (July, 1989) and Eleventh (April, 1990) Reports, and additional changes were made to improve the document's usefulness. The Subcommittee intends to work closely with the Committee on Foreign Affairs and with the Department of State to make future editions of the Title V report even more read-

able and useful to policy-makers. Committee Publication Numbers 101-D and 101-P (Joint Committee Prints)

3.6(q)—Inter-Parliamentary Meetings

The Subcommittee on International Scientific Cooperation coordinated several meetings between Members of the Science, Space and Technology Committee and representatives from the following international organizations:

1. *Western European Union.* On March 7, 1989, the Subcommittee met for an informal exchange of views with the Committee on Scientific, Technological and Aerospace Questions of the Western European Union (WEU), a European Interparliamentary group affiliated with NATO. WEU requested the meeting with the ISC Subcommittee as a follow-up to a meeting held between the two groups in March of 1987. The major topics of discussion included International cooperation in the Space Station, the Superconducting Super Collider (SSC), and human genome; technology transfer between the U.S. and Europe, the implications of Europe 1992, and the impact of government/industry consortiums such as SEMATECH; and burden sharing and defense spending.

2. *Canada.* On September 7, 1989, the Subcommittee organized a meeting with a delegation from the Standing Committee on Industry, Science, and Technology, Regional and Northern Development of the Canadian House of Commons. The Canadian members represent a newly reorganized Committee and were in Washington, D.C. to gain insight about U.S. science and industrial policy to apply in Canada's development of its own science and technology goals. The purpose of the meeting was to give the Canadian parliamentarians an opportunity to meet their American counterparts and to discuss the role of legislators in setting national science and technology policy and in methods of setting research priorities and managing funding of science.

3. *Italy.* On October 11, 1989, the Subcommittee organized a meeting between members of the Committee and a delegation of senior members from the Italian Space Agency, the agency responsible for the management and coordination of the National Space Program and Italian participation in the European Space Agency. The delegation was interested in discussing policy issues relating to U.S./Italian cooperative programs in space, science and technology research, and NASA plans to redesign the International Space Station.

4. *USSR.* On May 16, 1990, the Subcommittee organized a Committee meeting with a delegation of scientists from the Soviet Union to discuss East-West cooperation in science and technology. The Soviet delegation was led by the Vice President of the Academy of Sciences of the USSR, and included twelve top Soviet nuclear energy and space scientists and government officials. The discussions focused on fusion energy and space physics, areas in which East-West cooperation has been substantial for many years and where there are important future possibilities for enhanced cooperation. These two fields

share one important element, namely a dependence on plasma physics as a major underlying scientific discipline.

5. *Argentina.* On December 4, 1990, the Subcommittee hosted the visit of Mr. Miguel Nacul, Chairman of the Science and Technology Committee, Chamber of Deputies, Argentina. Mr. Nacul led a delegation of nine prominent Argentine science and industry officials to Washington. The inter-parliamentary exchange resulted from an invitation extended by the Chairman of Committee on Science, Space, and Technology, Mr. Roe, following the Committee's 1988 visit to Latin America. The Argentine delegation indicated that S&T will be a key factor in its drive toward economic reform. Furthermore, improved hemispheric relations, coupled with historic shifts to democratic rule and market reform in many Latin American countries, provide an opportunity for increased inter-American cooperation in science and technology. Discussions centered on civilian space cooperation, nuclear energy, global climate change, and strategies to step up science and technology cooperation, such as debt-for-science swaps.

6. *Korea.* On December 10–14, 1990, the Subcommittee arranged a series of science and technology policy briefings for a delegation of government officials from the Republic of Korea. The Korean visitors represented the science and technology policy arms of the Ministry of Science and Technology and the Ministry of Trade and Industry. The week-long meetings focused on the science and technology policy process in the United States, covering the Congressional authorization and appropriation processes and the executive branch implementation of science and technology legislation. Areas for possible S&T cooperation between the two countries were also of primary interest throughout the meetings.

7. *Chile and Hungary.* During the 101st Congress, the Subcommittee hosted legislative fellows for six- to eight-week periods from both Chile and Hungary.

3.6(r)—Foreign Oversight Activities

During the 101st Congress, the Subcommittee staff conducted foreign oversight at meetings in Singapore, Japan, and Sweden. The January, 1990 Singapore meeting was a major international marketing conference in remote-sensing. In June, 1990, staff accompanied a high-level U.S. delegation engaged in negotiations with Japanese government officials related to the Superconducting Super Collider project. In September, 1990, staff attended the final meeting of the Inter-Governmental Panel on Climate Change in Sundsvall, Sweden.

3.7—SUBCOMMITTEE ON SCIENCE, RESEARCH AND TECHNOLOGY

3.7(a)—On the Adequacy, Direction and Priorities for the American Science and Technology Effort

Background

In recent years, the growth of the federal research and development (R&D) budget has been inadequate to support all the new sci-

ence and technology projects that have been proposed, as well as to sustain ongoing projects. The proliferation of big science projects, such as the space station, the superconducting supercollider, and sequencing the human genome, have the potential to overwhelm the R&D budget. This situation raises a number of questions which revolve around the general adequacy of support for science and technology and the appropriateness of the relative levels of support for the various fields of science and technology. Consideration of relative support levels leads naturally to the process by which public resources are allocated for science and technology.

Since it is unlikely that all of the scientific opportunities that arise can be pursued simultaneously within existing budget constraints, choices must be made among new, major initiatives in different fields of science and technology, and choices must also be made in balancing the relative support levels to sustain existing programs in different fields. Yet, there is no well-defined mechanism for evaluating and prioritizing these new initiatives nor for systematically evaluating the overall federal R&D investment in the various fields of science and technology. The R&D budgets of different federal agencies are evaluated separately and largely independently, both within the Executive Branch and the Congress, making long-term planning of research directions and priority setting difficult.

In response to a request accompanying the Concurrent Resolution on the Budget FY for 1989, the National Academy of Sciences, the National Academy of Engineering and the Institute of Medicine prepared a report entitled, "Federal Science and Technology Budget Priorities", December, 1988. The report strongly recommends that both the Executive and Legislative Branches institute procedures, within existing organizational arrangements, for providing an overall assessment and prioritization of the federal science and technology (S&T) budget. The report suggests four categories of budget priorities but makes no judgements regarding the relative importance of these categories.

Much of the discussion involving organizational arrangements for setting priorities in science and technology has focused on the Office of Science and Technology Policy (OSTP). In the enacting legislation (P.L. 94-282), OSTP was tasked to perform strategic planning for federal R&D investment and to play a large role in the annual development of the R&D budget. It is generally agreed that OSTP has not met the expectations of the legislation in these areas. During a Subcommittee on Science, Research and Technology oversight hearing of OSTP in 1988, several witnesses called for strengthening the Office by increasing staffing and by elevating the rank of the OSTP Director. However, it was also recognized that, ultimately, the level of interest of the President determines the impact of the Office.

Development of effective mechanisms to evaluate adequacy of support and to set priorities in science and technology is critical not only because the resources available cannot support all the meritorious research projects proposed but also because a linkage exists between the choices that are made among competing R&D projects and subsequent technological innovation. Ultimately, the

allocation of R&D resources has a large impact on the competitiveness of U.S. industry and on the overall well being of the Nation.

Summary of Hearing

On February 28 and March 1, 1989, the Subcommittee on Science, Research and Technology held hearings to identify effective mechanisms for evaluating the adequacy of funding support for science and technology, for determining promising directions for new research, and for establishing priorities in the federal R&D budget. Witnesses included the President of the National Academy of Engineering, academic scientists and administrators, former federal officials who were involved in establishing R&D policy, and industrial scientists and engineers.

There was general consensus among the witnesses that the Executive Branch should institute procedures to establish cross-agency priorities for the federal R&D budget. Most believed that a strengthened OSTP should be the focus for this process, working closely with OMB. Continued stress was placed on the importance of R&D policies which would lead to strengthening of national competitiveness and on the urgent need to improve science and mathematics education in the Nation's schools. Also, the witnesses agreed that basic research and university infrastructure deserve continued strong support because this is the base for all technology efforts.

Report

On October 19, 1989, the Committee on Science, Space, and Technology approved and ordered reported a report prepared and adopted by the Subcommittee, "Setting Priorities in Science and Technology", which presents an overview of the Subcommittee hearing and a set of recommendations which grew out of the testimony received.

The recommendations of the report strongly endorsed the need for a assessment of federal R&D budget priorities across agency boundaries and the need for instituting standardized evaluation procedures for large multi-year initiatives. OSTP was identified as the Executive Branch organization which should assume the central role in the formulation of priorities, as well as carrying out assessments of long-term technology trends and opportunities. Also, the report recommends that the President's budget each year contain a breakdown of federal funding supporting both science, mathematics and engineering education and also basic science and engineering research and renewal of university research facilities. Committee Publication number 101–7 and H. Rept. 101–310.

3.7(b)—National Science Foundation Oversight

Background

The National Science Foundation (NSF) is an independent federal agency established in 1950 to promote and advance scientific progress in the United States. NSF builds U.S. scientific strength by funding research and education activities in all fields of science and engineering at more than 2000 colleages and universities and other research institutions in all parts of the United States. The NSF budget comprises only about 3% of the Federal R&D budget of

$65 billion in FY 1988. However, NSF provides more than 25% of basic research funding at universities and over 50% of the federal funding for basic research in certain fields of science, including math and computer sciences, environmental sciences, and the social sciences. Moreover, NSF plays an important role in precollege and undergraduate science and mathematics education through programs of model curriculum development, teacher preparation and enhancement, and informal science education.

Scientific and technological innovation plays the leading role in increasing productivity in our economy. Since World War II, new technology has been responsible for nearly half of all productivity gains. Thus, science and engineering research and education provide the basis for present and future economic competitiveness. Basic research at academic institutions supplies a major part of the knowledge base supporting new industrial technologies and trains new generations of scientists and engineers, the human capital essential for sustaining the economic strength of a modern industrial society. Consequently, support of science and engineering research and education is an investment in the future well-being of the Nation.

The NSF budget, with the support and encouragement of Congress, has grown from $1.09 billion in FY 1983 to $1.88 billion in FY 1989. The NSF Authorization Act (P.L. 100–570), a five-year authorization, provided for doubling the NSF budget by the fifth year, FY 1983. The Administration's proposed FY 1990 budget for NSF, $2.15 billion, was 14% above the FY 1989 appropriation. The proposed increase, which was consistent with the rate of increase in the second year of the authorization act, would have allowed for new initiatives in the Antarctic program, biodiversity research, and expanded undergraduate education programs, as well as significant increases to the Science and Technology Centers Program, the national Supercomputer Centers and networking activities, and the graduate fellowship program.

Summary of Hearing

The Subcommittee on Science, Research and Technology held three days of hearings to review the overall NSF budget request for FY 1990 and to review specific NSF programs supporting precollege science and math education, the astronomical sciences, and the behavioral and social sciences.

On March 9, 1989, the President of the Carnegie Foundation for the Advancement of Teaching provided an overview of the problems in precollege science and math education and a strategy for improvement. He stressed the need for a coherent curriculum for the early school years, an upgrading of the teacher corps, and alternative certification procedures for math and science teachers. The Florida Commissioner of Education and representatives of school textbood companies discussed the introduction of new curricular materials into the schools and, in particular, the NSF sponsored joint effort among educators, scientists and textbook publishers to develop new science and math textbooks. Two problems mentioned involved the rigidity imposed on new materials, due to the need to meet the requirements of standardized tests and delays in introduction of new materials in state-wide adoption states due to

the period of time between the windows for introduction of new materials.

Also during the March 9 hearing, panels of scientists and teachers discussed the effectiveness of NSF sponsored teacher training institutes. These institutes are seen as very effective in upgrading skills and in recharging teachers' enthusiasm. The witnesses stressed the need for more training programs for elementary school teachers and the effectiveness of programs which require attendees to train their colleagues at their home schools. Finally, the President of the American Association for the Advancement of Science, Chairman of the Council of Scientific Society Presidents and the President of the Scientific Research Society provided their views on three science scholarship bills, H.R. 996, H.R. 1217, and H.R. 1293 (see description of H.R. 996 in preceding section).

On March 14, 1989, the Subcommittee received testimony on NSF disciplinary programs in the social and behavioral sciences and in the astronomical sciences, as well as testimony on the NSF initiative on health/environment/safety regarding the U.S. Antarctic Program. Three distinguished social and behavioral scientists described ways in which their disciplines contribute to society and reviewed some of the findings of a recent National Academy of Sciences report on research opportunities in this field. The witnesses objected to the funding levels provided by NSF in light of the importance of the social and behavioral sciences. A second panel comprising of the chairman of the NSF Advisory Committee for Astronomical Sciences and the directors of the three NSF national astronomy facilities outlined the impact of state budgets on the operation and upgrading of their facilities. The final panel of representatives from environmental groups reviewed the NSF plan for the Antarctic health/environmental/safety initiative. These witnesses were generally supportive of the NSF initiative but felt that it should go further. Suggestions were made for NSF to totally eliminate landfills, begin waste water treatment and ban plastic refuse.

On March 16, 1989, the NSF Director and a representative from the National Science Board reviewed the FY 1990 NSF budget request and its rationale.

Report

On October 19, 1989, the Committee on Science, Space, and Technology approved and ordered reported a Subcommittee report, "Oversight of the National Science Foundation Fiscal Year 1990 Programs", which reviews the FY 1990 budget request and mandated three-year budget projection in light of the current NSF authorization law and which also reviews certain issues explored in NSF oversight hearings.

The report generally endorses the FY 1990 NSF budget requests for Research and Related Activities and for the U.S. Antarctic Program. However, the large rate of increase for the Science and Technology Centers program is questioned and the relatively low rate of increase for precollege science education programs is deplored. The report also finds the initial submission of the mandated three-year budget projection unsatisfactory and requests that future submissions reflect the outcome of a prioritization process, and provide the rationale for projected budget changes.

The report encourages NSF to provide future budgeting for the Academic Research Facilities Modernization Program and to reassess the rate of future increases for the Science and Engineering Education Directorate in light of the NSF Authorization Act of 1988.

NSF is tasked to provide reports on the NSF budget prioritization process, plans for upgrades and new construction of national research facilities, undergraduate instruction, and research programs in the behavioral and social sciences. Committee Publication Number 101-21 and H. Rept. 101-309.

3.7(c)—Earthquake Research and Response

All or part of 44 States may suffer moderate to severe shaking from earthquakes. Within these States, more than 70 million people are exposed to the earthquake hazards of ground shaking, surface faulting, earthquake ground failure and tsunamis.

In response to the need to minimize the consequences of earthquakes, Congress enacted the Earthquake Hazards Reduction Act of 1977 (P.L. 95-124) which mandated a multiagency effort to implemented the objectives of a National Earthquake Hazards Reduction Program (NEHRP). The Federal Emergency Management Agency, the U.S. Geological Survey, the National Science Foundation, and the National Institute of Standards and Technology were designated to carry out principal Federal responsibilities for leading, coordinating, and conducting earthquake research, hazard mitigation, and disaster preparedness activities.

The Earthquake Hazards Reduction Act of 1977 was initiated by the Subcommittee on Science, Research and Technology. Since that time, the Subcommittee has held hearings on all aspects of the NEHRP including lessons learned from earthquakes that occurred in Whittier Narrows, California and Mexico City. In 1989, the Subcommittee held the following hearings: "The Soviet Armenian Earthquake Disaster: Could A Similar Disaster Happen in the U.S.?," "The Earthquake Threat In the Central U.S.: Are We Prepared?," and "The Loma Prieta Earthquake: Lessons Learned." Committee Publication Numbers 101-101 and 101-79.

3.7(c)(1)—The Soviet Armenian Earthquake Disaster: Could a Similar Disaster Happen in the U.S.?

Background

The December 7, 1988 magnitude 6.9 earthquake centered in the Soviet Republic of Armenia brought into focus the enormous damage that can result from earthquakes and raised questions about the adequacy of the NEHRP in the U.S. The earthquake was a major disaster. Official estimates list 25,000 dead, 18,000 injured and over 500,000 homeless. Over 5,000 people were extracted from collapsed buildings. Economic losses ranged from $20 to $40 billion. Research indicates there is a 60 percent probability that an earthquake of Richter magnitude 7.5 or greater could occur on the San Andreas fault in Southern California in the next 30 years, and a 50 percent probability that a 7.0 or greater magnitude event could occur on the San Andreas fault in the San Francisco Bay region in

the same time period. In the Central U.S., research indicates there is a 40 or 63 percent probability that a Richter magnitude 6.0 earthquake could occur on the New Madrid fault before the year 2000. The impact of any such earthquake could kill or injure thousands of people, result in billions of dollars in damages, and put tremendous stress on the national economy.

A U.S. team of earthquake experts organized by the U.S. National Academy of Sciences went to Armenia at the request of the President of the Soviet Academy of Sciences. The U.S. team included seismologists, architects, structural and geotechnical engineers, and experts on industrial facilities, rescue operations and utility lifelines. Many other groups provided assistance including firefighters, from the International Association of Fire Chiefs and a medical team of trauma specialists.

Summary of the Hearing

The Subcommittee on Science, Research and Technology held a hearing on March 15, 1989 to obtain the views of practicing engineers, architects, medical and emergency response experts who went to Armenia. Also, structural engineers and a state emergency management official provided views on the implications the lessons learned held for the U.S.

A key point that emerged from the hearing was that similar seismologic and engineering conditions that caused the Armenian earthquake disaster also exist in the U.S. in areas such as: Puget Sound in Washington; the region centered on the New Madrid fault between St. Louis, Missouri and Memphis, Tennessee; the region around Charleston, South Carolina; and the Salt Lake City region of Utah. An Armenian-type disaster could occur in the U.S. given the regional similarities in earthquake potential, building types, and the absence of earthquake preparedness programs.

Three issues emerged from the hearing relative to structures. The earthquake was an engineering disaster. The closest city, of any size, to the fault was Spitak, a city of over 20,000 people. Every building in Spitak was severely damaged or collapsed. The majority of the damage was in Leninakan, a city of 290,000 approximately 40 kilometers west of Spitak. About 80 percent of all buidlings in Leninakan (representing over 2,000,000 square meters or 20,000,000 square feet of floor area) were damaged or collapsed.

The Soviet system of building is quite different from the U.S. with all design and construction in the Soviet Union being handled by a single governmental agency. In the affected area of Armenia, there were only four types of residential or commercial buildings in contrast to the numerous unique designs in any city of the U.S.

Of the primary building systems affected by the earthquake, seismological underdesigned precast-concrete frames with precast shear walls performed the poorest. This system was used extensively in Armenia for commercial, residential, and industrial buildings. It is also popular in the U.S. While the system is probably adequate in non-seismic zones, the earthquake demonstrated that it should be eliminated or radically modified in higher risk zones in both countries.

The medical and emergency response experts highlighted the need for a stronger central federal focus for disaster medical serv-

ices and emergency medical response to mass casualty incidents, such as an earthquake. Serious concern was raised about the preparedness of the U.S. to respond to the scale of search and rescue operation and emergency medical services required after an Armenian-type earthquake. Effective specialized equipment for search and rescue in a collapsed reinforced environemnt does not exist in the U.S. Equipment used is borrowed from other applications such as vehicle rescue, mine rescue or the construction/demolition industry. Although successful search and rescue from building collapse requires massive immediate response, current methods are slow and inefficient. An increased federal emphasis on training state and local health personnel in mass casualty management is needed. Very few U.S. communities are even remotely prepared to deal with mass casualties.

Finally several witnesses emphasized the need to adequately fund the NEHRP. Also, many witnesses emphasized the need for the NEHRP to develop a stronger technology transfer program to the user community. Committee Publication Number 101-5.

3.7(c)(2)—The Earthquake Threat in the Central United States: Are We Prepared

Background

The region near New Madrid, Missouri, suffered three earthquakes greater than 8.4 on the Richter scale in 1811 and 1812. A similar earthquake today would have devastating consequences for the region.

Earthquakes east of the Rocky Mountains are triggered by a mechanism different from that of the San Andreas Fault in California. California earthquakes are caused by the release of stress that builds up as the North American crustal plate slips past the Pacific plate. The New Madrid seismic zone sits well within the major North American plate, on what is believed to be a uniform and stable mass of rock. The lack of gross surface features makes it difficult to learn more about the region, but research is demonstrating that the major plates are complex structures.

Research shows that, unlike California, the rock underlying much of the eastern states will transmit earthquake shocks very well over large distances, imperiling a much greater area. Also, soil types, like unconsolidated fill lands or riverbanks, will have a major role in determining the extent of damage inflicted on structures.

Summary of Hearing

A hearing was held on November 17, 1989, by the Subcommittee on Investigations and Oversight and the Subcommittee on Science, Research and Technology on the threat posed by the New Madrid seismic zone of the Central U.S.

Serious concern was raised by many witnesses regarding erosion in funding for the NEHRP. Erosion in funding has occurred in spite of gradually increasing earthquake vulnerability of many regions of the Nation. The reduced funding level has also curtailed the ability of the U.S. to globally compete with the earthquake industry and construction projects overseas.

Witnesses raised concern that the status of knowledge on the earthquake process and seismic hazard in the Central U.S. is at least a decade behind the relatively well understood plate boundary/fault systems of California and the Pacific Northwest. Witnesses emphasized that research is needed to understand the earthquake phenomena east of the Rocky Mountains. Currently, two of the three regional seismic networks that monitor the New Madrid seismic zone are scheduled to be eliminated by 1992 to establish a National Seismic Network. However, the data provided by the National Seismic Network will be too coarse to identify continuing activity in the New Madrid zone. Witnesses recommended both a national seismic system and regional seismic system. Witnesses expressed a need for more research on existing unreinforced masonry buildings, nonductile reinforced concrete structures, bridges and pipelines. From this research a more accurate estimate of the cost to retrofit structures could be derived.

Finally, state emergency preparedness officials stressed the importance of long-term awareness, preparedness and education programs to be led by local government, involving full participation of all segments of the population. (See hearing summary of Subcommittee on Investigations and Oversight.) Committee Publication Number 101-101.

3.7(c)(3)—Field Hearing—The Loma Prieta Earthquake: Lessons Learned

Background

The magnitude 7.1 Loma Prieta earthquake of October 17, 1989 was the strongest tremor felt in northern California since the great San Francisco earthquake of 1906. Loss of life and of property resulting from the Loma Prieta earthquake were considerably less than that suffered in recent earthquakes of comparable or smaller size in other countries. Even so, the total estimated cost of earthquake-related damages in the Bay Area may approach $10 billion, making this the most expensive natural disaster in the history of the U.S.

Of even greater concern is the certainty that earthquakes of similar or greater magnitude—with epicentral locations closer to major population centers—are expected to occur in California in the next 20 to 30 years. It has been estimated that any one of these earthquakes could result in thousands, or tens of thousands, of deaths, and $50 billion or more in damages.

The NEHRP has undergone a significant erosion of funding, from $94.4 million in FY 1977 to $66.0 million in FY 1989 (both figures in FY 1989 dollars). The President's request for FY 1990 would have cut an additional $3.1 million, reducing the program to $62.9 million. However, Congress restored the NEHRP for FY 1990 to $68.0 million. In light of these budgetary constraints, the NEHRP funding levels available to the U.S. Geological Survey have limited the comprehensive instrumentation for the San Andreas Fault to a single fault segment in the Parkfield area. In addition, experimental facilities for earthquake engineering in the U.S. are inferior to those of Japan. On October 26, 1989, P.L. 101-130, Fiscal Year 1990 Dire Emergency Supplemental to Meet the Needs of the Natural

Disasters of National Significance, appropriated an additional $20 million "no year money" for the NEHRP, bringing the total funding for FY 1990 to $87.0 million. The funds were provided for disaster relief needs resulting from the Loma Prieta earthquake and Charleston, S.C. hurricane Hugo.

S. 1062, Earthquake Hazards Reduction Act of 1977 Amendments Act, passed the Senate on October 25, 1989. S. 1062 was referred to the Committees on Science, Space, and Technology and Interior and Insular Affairs on October 30, 1989. Similar legislation, H.R. 3533, was introduced on October 26, 1989, authorizing the spending of the $20 million appropriated by P.L. 101-130 to the NEHRP in FY 1990. H.R. 3533 was referred to the Committees on Science, Space, and Technology and Interior and Insular Affairs on October 26, 1989.

Summary of the Hearing

The Subcommittee on Science, Research and Technology held a field hearing on December 4, 1989, in San Francisco, California. The hearing was designed to gauge the state of our knowledge about earthquakes, to determine the adequacy of the current NEHRP effort and to determine the impact of S. 1062 and H.R. 3533 on the NEHRP. Special emphasis was placed on determining whether the causes and effects of the Loma Prieta earthquake (geological, engineering and human reaction) conformed to expectations. The hearing was held at the site of the fall Meeting of the American Geophysical Union.

Witnesses from the earth sciences community found that the earthquake reaffirmed many aspects about the basic understanding of the nature of earthquakes and the hazards they pose to society. The Loma Prieta earthquake occurred in an area where earthquake activity had been expected and did damage to those areas and to structures known to be at greatest risk. The absence of surface faulting frequently seen in a magnitude 7.1 earthquake was unexpected. Geologists usually depend on evidence of surface faulting to identify, date, and measure prehistoric earthquakes. Testimony of the earth scientists recommended research priorities emphasize: identification of the most threatening fault segments; instrumenting threatening faults with promising technologies; and beginning focused engineering studies.

Witnesses from the engineering community agreed that structures behaved as expected during the earthquake. The new engineered structures did well overall and the older, "non-engineered" buildings experienced damage. However, witnesses emphasized that Loma Prieta presented an important laboratory for more research on the performance of structures. Being the largest event since the 1906 earthquake, and with hundreds of strong motion records taken, a unique opportunity is available to compare analytical techniques commonly used to predict the response of structures, with the recorded and observed damage. The main point raised by the engineering witnesses was that the NEHRP had generated an abundance of seismological information, but not enough information on how practicing engineers can apply that information.

Two main points emerged from the hearing relative to societal response. Progress in earthquake preparedness in California's cities

and countries enabled every level of government to respond effectively after Loma Prieta. However, mitigation efforts must be accelerated, response capabilities enhanced, public education programs updated to respond to larger urban-centered earthquakes that are expected in the future. Committee Publication Number 101-79.

3.7(d)—Implementation of the Computer Security Act of 1987

Background

The Computer Security Act of 1987 was signed by the president and became P.L. 100-235 on January 8, 1988. The Act directs the National Institute of Standards and Technology (NIST) to establish a computer standards program for federal computer systems, including guidelines for the security of such systems; requires NIST to draw upon computer system technical security guidelines developed by the National Security Agency (NAS) regarding the protection of sensitive information; establishes a Computer System Security and Privacy Advisory Board within the Department of Commerce; requires each agency to provide mandatory periodic training in computer security, under guidelines developed by NIST and regulations issued by the Office of Personnel Management (OPM), for all employees involved with the management use, or operation of computer systems; requires each agency with a federal computer system to establish a plan for the security and privacy of sensitive information; and requires the submission of such plans to NIST and NSA for advice and comment.

Summary of Hearing

On March 21, 1989, the Subcommittee on Science, Research and Technology held a joint hearing with the Subcommittee on Transportation, Aviation, and Materials to receive a progress report on the implementation of certain provisons of P.L. 100-235. Witnesses were: Mr. Jay Plager, Administrator, Office of Information and Regulatory Affairs, OMB; Vice Admiral W.O. Studeman, Director, NSA; Mr. Raymond Kammer, Acting Director, NIST; Mr. Curtis J. Smith, Associate Director, OPM; Mr. Francis McDonough, Deputy Commissioner, General Services Administration (GSA); and Mr. Howard Rhile, Jr., Associate Director, General Accounting Office (GAO).

Witnesses from each agency presented their efforts to comply with responsibilities as enumerated in P.L. 100-235. Mr. Plager focused on OMB's monitoring of other federal agencies; compliance with the Act. Admiral Studeman discussed the status of the NAS/NIST Memorandum of Understandng (MOU) and the issues involved in agreeing to that MOU. Mr. Krammer reviewed NIST's activities leading to the MOU with NSA, the activities of the Computer System Security and Privacy Advisory Board, the status of agency computer security plans submitted to NIST for analysis, and the development of guidance on computer security training. Mr. Smith reported on OPM's efforts to assist Federal agencies in their computer security training programs, including the development of training materials and courses.

Mr. McDonough presented testimony regarding GAS's assistance to other federal agencies in implementing the Act, including producing guidelines, bulletins, handbooks, and reference documents. He also described GSA's award of a contract to a private firm for security risk analysis. Mr. Rhile summarized the results of GAO's questionnaries on federal agencies' implementation of the Act's training and security plan requirements, as well as GAO's review of the methodologies used by ten federal agencies in identifying their sensitive systems.

Most witnesses from the federal agencies testified that their agencies were working diligently to comply with the Act. OMB has given strong support for implementing the Act, and even encouraged the Department of Commerce to increase its budget request for computer security, but the increase was not provided in the fiscal year 1990 appropriation. OPM has done a creditable job of providing agencies with computer security training material, and GSA has performed well its assigned role of providing agencies with literature about computer security. GAO is monitoring selected agencies' compliance with the provisions of the Act. NIST and NSA signed an MOU a few days after the hearing. Unfortunately, by December 1989, the first joint effort under the MOU, development of public key cryptography, had not been completed. The hearing illustrated that NIST had made significant contributions to the field of computer security, despite its limited budget, but that NIST should show more leadership in the area of international computer security standards development. For additional information, see the discussion under the Subcommittee on Transportation, Aviation, and Materials. Committee Publication Number 100–18.

3.7(e)—Science and Technical Education at Two-Year and Community Colleages

Background

As America enters the 21st Century, one of the fundamental challenges facing our political, business, and education leaders will be the preparation of future generations of American workers for the demands of an increasingly technological workplace. The future strength and prosperity of our Nation will depend on our ability outfit the American worker with the skills and education necessary in the factory or office of tomorrow.

It is universally acknowledged that the workplace of the future will be increasingly complex, dependent on technology, and subject to rapid change. America's stature as a world economic power will depend directly upon the ability of its workers to cope with these conditions. The world of the future will demand of workers, both blue and white collar, a new level of technical competence. Our notions of basic education and job training must begin to reflect the necessity for new standards of mathematical and scientific ability.

In addition to these and other education trends, the predicted demographic changes in the workforce present factors that must be addressed. The birth rate has dropped by 30 percent and the number of people reaching working age in the next decade will go down by 16 percent. Nearly 66 percent of new entrants into the workplace over the next decade will be women. In fact, the rate of

female participation in the economy has grown from 37 percent in 1960 to 50 percent today and the trend will continue well into the future. White males will no longer be the primary source of personnel in the workplace. Women and minorities must fill the shortfall in skilled labor.

The Nation's 1,222 two-year and community colleges offer elements that can help address these needs. Low-cost education and training programs with flexible scheduling are of particular importance to those adults with jobs and families. Almost 50 percent of community college students are not of traditional college age. The average yearly tuition at a two-year or community college is $660 and a two-year or community college is within easy commuting distance of 90 percent of all Americans. These facts take on added importance when it considered that 55 percent of all first-time freshmen begin their studies at a two-year community college and 41 percent of all undergraduate students in the U.S. attend these institutions. In fact, when surveyed, more than one-half of the graduates of two-year and community colleges said they may not have been able to attend college at all if a local community college were not available.

Many community colleges have designed programs with local industry specifically geared to meet the immediate and future needs of these industries. They work directly with employers, labor unions, professional associations and community groups to develop and offer specialized training programs, as well as with the Armed Services to meet their critical skill needs. Two-year and community colleges have played an increasingly significant role in local and state economic development strategies by providing on-the-job training and worker retraining.

Summary of Hearing

The Subcommittee on Science, Research and Technology held a hearing on April 11, 1989 to examine issues related to Adult Literacy and Technical Training. The hearing focused on programs by community colleges, as well as the private sector aimed at providing basic literacy training, science and technology knowledge, and specific job skills for private industry. Witnesses included representatives of various community colleges from around the country, the National Science Foundation (NSF), the Office of Technology Assessment (OTA), and the Tennessee Valley Authority.

Mr. Cary Israel of Front Range Community College, Westminister, Colorado; and Dr. John Kraft of the Community College of Alleghany County, Pittsburgh, Pennsylvania, described their curriculum in scientific and technical subjects, as well as the special job training programs the colleges offer for the benefit of local industry. Mr. William Willis, Chief Operating Officer of the Tennessee Valley Authority (TVA), outlined the problems faced by employers due to generally low literacy skills, as well as a training program started by TVA to address this problem. Mr. Willis described the improvements in workers' abilities and efficiency due to literacy and technical instruction. Dr. John Clevenger of Truckee Meadows College in Reno, Nevada, Dr. John Alexieu of Miami-Dade Community College in Miami, Florida, and Dr. Robert Menefee of Montgomery College in Gaithersburg, Maryland provided a

detailed description of special and innovative science and mathematics courses aimed at providing remedial instruction, as well as other programs aimed at women and minorities.

Dr. Robert Watson, Director of Undergraduate Science, Engineering, and Mathematics Education of NSF, provided an outline of the NSF programs for which community colleges are eligible, as well as the results of an NSF-sponsored workshop on the needs of community colleges. Dr. Daryl Chubin of OTA discussed a 1989 OTA study commissioned by the Committee on Science, Space, and Technology and entitled, "Educating Scientists and Engineers: Grade School to Grad School", as well as other research projects by OTA in support of this study. Dr. Chubin covered topics such as education and career choices made by undergraduate students, retaining minority students in science and engineering programs, and expanding the pool of students seeking careers in scientific, technical and engineering careers. Committee Publication Number 101-34.

3.7(f)—Quality: Its Role in a Modern Competitive America

Background

In the 99th and 100th Congresses, Committee efforts related to quality improvement focused on passage of the Malcolm Baldrige National Quality Improvement Act of 1987 (P.L. 100-107). This Act established an award similar to the Deming Prize which is presented annually in Japan to the company which does the best job in quality throughout its organization.

The purposes of the Malcolm Baldrige National Quality Award are to promote quality awareness, to recognize the most impressive quality achievements of U.S. companies, and to publicize successful quality strategies of the awardees. Awards are made annually to a maximum of two qualifying companies in each of the following categories: manufacturing companies, service companies, and small business. The law includes provisions describing the application, evaluation, and compliance requirements, along with the duties of the Director of the National Institute of Standards and Technology (NIST) as the authorized overseer of the program. There are no appropriated federal funds involved. A $10.0 million endowment has been raised from private contributions to cover overhead, and organizations competing for the award pay application fees which cover the costs of evaluating their applications. A report is required from the Secretary of Commerce to the President and the Congress after the program has been in effect for three years. The Committee on Science, Space, and Technology was instrumental in the introduction and final passage of this legislation in 1987. During December 1988, at a White House ceremony, President Reagan presented the first annual awards to Motorola Inc., Westinghouse Electric Corporation's Commercial Nuclear Fuel Division, and Globe Metallurgical Inc. In December 1989, Xerox Corporation and Milliken and Company were announced as the 1989 winners.

Summary of Hearing

On April 18, 1989, the Subcommittee on Science, Research and Technology held a hearing to introduce the 1988 winners of the Malcolm Baldrige National Quality Award, to receive the winners'

views on how high levels of quality can be achieved, and to receive testimony from other quality experts. Witnesses included Dr. Curt Reimann, Director of the Malcolm Baldrige National Quality Award, NIST; Mr. Larry Adams, Treasurer of the Foundation for the Malcolm Baldrige National Quality Award; top officials of the 1988 award winning companies; and a variety of other experts from the field of quality management.

In his testimony, Dr. Reimann summarized the process by which NIST executed the program in its first year. NIST solicited advice from quality experts, publicized the award in the private sector, and helped set up the Foundation which would underwrite the award. It then supervised the evaluation of applicants (including site visits), selected the awardees, and made recommendations for the program for the 1989 awards. Mr. Adams explained how the Foundation became involved in the program, as well as the Foundation's efforts to raise the necessary funding.

The witnesses from the winning companies described their programs for improving the quality of their products, explained how the drive for quality had improved productivity and increased competitiveness while lowering costs, and explained how the success of their quality programs had inspired other American companies to emulate their efforts to improve quality. The panel of quality experts complemented the testimony of the award winners by pointing out that the award program encourages quality, recognizes leadership in this field, enhances U.S. competitiveness, and helps to publicize the importance of quality. The panel also noted the important need for more instruction in U.S. graduate business schools in the discipline of quality management. Committee Publication Number 101–8.

3.7(g)—Preservation of Print

Background

The Library of Congress, along with all libraries and archives throughout the country, is facing catastrophic losses to its collections because of paper embrittlement, which is destroying books and printed records dating from the 1850's to the present day. The Library of Congress has four and one-half million books which are too brittle to use, and each year more than 75,000 are disintegrating. The cost of saving only one copy nationwide of each brittle book is well beyond the preservation resources of the nation's libraries. Ironically, embrittlement is a result of the technological revolution which enabled mass-production of paper in the 1850's. Using acid-based processes, the new technology allowed paper to be made from cheap wood pulp, rather than expensive rags, but paper produced in this way turns to dust in about 50 to 75 years.

New technology developed in the 1950's has enabled wood pulp to be made into paper without using acids. Paper made by this alkaline process has an expected life cycle of 200 to 300 years. Each year more paper mills are converting to this process, which, once installed, is cheaper and more environmentally benign than acid processes. Most publishers have become aware of the advantages of permanent paper, as it is called, but the Federal Government lags behind the private sector in taking active steps to insure its use for

books and documents of lasting value. In addition, recently published Environmental Protection Agency (EPA) regulations for procurement of recycled materials may have a detrimental effect on the availability of permanent paper for government publications. These regulations mandate procurement of paper which has a minimum of 50 percent recycled fiber.

Summary of Hearing

The Subcommittee on Science, Research and Technology held a hearing on May 4, 1989 to review the progress being made, both in government and in the private sector, towards printing books on permanent paper, and to assess the effect of EPA procurement regulations on the quality of paper the federal government purchases for printing.

Witnesses representing the Library of Congress, the New York Public Library, and the National Library of Medicine explained the enormous crisis which our libraries are confronting, and the success of their efforts to raise awareness of the problem among publishers and authors. The Chairman of the Association of American Publishers affirmed that organization's support for use of permanent paper for all hard cover and trade books, and supplied the results of a recent survey showing real progress towards this goal.

The Acting Public Printer testified that the Government Printing Office (GPO) has made recent efforts to increase its use of permanent paper for government publications, but stated that its legislative authorities mandate that many other factors, such as price and availability, must be considered before permanence of paper can be addressed. A representative from EPA detailed the potentially lengthy and cumbersome process an agency would need to go through, in order to specify the use of permanent paper for a publication under the new regulations.

Representatives of two paper manufacturers who have extensive experience in making alkaline paper indicated that, while high quality permanent paper can be made with virtually any amount of recycled fiber, the type of recycled material used was critical to the quality of the paper produced. Both witnesses agreed that the percentage of mixed waste which could be used in fine paper was very low.

Concerns raised in the hearing about the potential effect of EPA procurement regulations on the quality of paper in government publications led to the introduction of H.R. 3094, to amend the Solid Waste Disposal Act by requiring that Federal publications of enduring value be printed on permanent paper, on August 2, 1989. The bill would mandate the purchase of permanent paper by the Federal Government for books and documents which have enduring value, and give preference to the procurement of alkaline paper wherever practicable. H.R. 3094 was referred to the Committee on Energy and Commerce, and was incorporated into H.R. 3736, the Solid Waste Disposal Act, introduced on November 19, 1989. Committee Publication Number 101-14.

3.7(h)—Stimulating Investment in Research and Development

Background

The training and availability of a technologically competent workforce, and a strong national commitment to civilian research and development are two factors which underlie U.S. competitiveness. Both require long-term planning, and so are highly sensitive to investment and tax policy. The Federal Government has an important responsibility to provide adequate financial support to graduate students in critical areas of science and engineering, and also to create a stable investment climate that allows companies to devise the long-term financial strategies upon which their research and development programs depend.

Recent changes in the tax code could have an impact on both the supply of scientists and engineers in the workforce and the level of industrial research and development (R&D). U.S. college students are increasingly graduating with large education-related debts and are not choosing the long and relatively costly route of obtaining advanced degrees in science and enginering. This trend, together with a decrease in the college-aged population, indicates that there may be a shortage of highly trained scientists and engineers within the next decade. In 1986, 29 percent of full-time science and engineering graduate students received no financial aid. Furthermore, the Tax Reform Act of 1986 has made graduate student scholarships for living expenses fully taxable and has prohibited the tax exclusion of in-kind payments such as research or teaching assistantships.

The R&D tax credit, first adopted in 1981, allowed a 25 percent tax credit on incremental investments for certain research and experimental activities. This tax credit expired in 1985, but was extended at a 20 percent rate until December 31, 1989. The Omnibus Budget Reconciliation Act of 1989 again extended the R&D tax credit to December 31, 1990. Debate over its effectiveness began with inception and still persists.

Summary of Hearing

The Subcommittee on Science, Research and Technology held a hearing on May 18, 1989 to explore these issues. Witnesses representing graduate schools indicated that federal support for graduate education has declined in real terms since the 1960's, both in numbers of grants and in amount per grant. Increased support for graduate study is necessary to counter the effects of a declining student base and high-salary opportunities in industry available to recent graduates. Only by making graduate education attractive to the best students can we hope to train enough scientists and engineers to develop the next generation of advanced technologies.

Two economists represented differing views on the effectivenss of the R&D tax credit. Dr. Robert Lawrence from the Brookings Institute presented the view that, because the value of research and development to society is so much greater than its cost to an individual company, any R&D tax credit greatly benefits the economy as a whole. In contrast, Dr. Robert Eisner of Northwestern University stated that studies have not demonstrated any connection at all between the tax credit and the level of industrial R&D, and that the

credit is useless for companies who do not show profits, and thus do not have tax liabilities. Although he considered the Administration proposal (to make the credit permanent at 20 percent, while broadening the base from which the incremental increase is calculated) was an improvement over the present R&D tax credit, he was very skeptical about its ability to spur investment that a company might not otherwise make.

The Subcommittee heard from representatives of two high technology companies who testifeid that the cost of capital is often higher for small high-tech companies than for other businesses. Although these witnesses acknowledged that the R&D tax credit does not by itself determine the level of a company's R&D investment, they felt that it was definitely a factor which corporate planners took into account. Each of the company witnesses indicated that tax code predictability is critical to a company's ability to implement long-term financial plans, and that the actual level of credit available to a company is not as important as the company's ability to rely on its permanence. Committee Publication Number 101-29.

3.7(i)—Implementation of the Federal Technology Transfer Act of 1986

Background

The Federal Technology Transfer Act (FTTA) of 1986 (P.L. 99-502) and Executive Order No. 12591 of April 10, 1987, Facilitating Access to Science and Technology, set in motion far-reaching changes in the way domestic federal technology transfer is to be viewed by the government's scientific and technical personnel and by the federal laboratories. Technology transfer, as used in this Act, is the process of encouraging U.S. companies to take advantage of research conducted in federal laboratories. The Committee has long felt that technology transfer can be a powerful method of receiving maximum value from federally funded research and development, if responsibility for technology transfer is delegated to technical levels. Therefore, the Act makes technology transfer the responsibility of all federal scientists and engineers and mandates that this responsibility be considered in employee performance evaluations. The Act permits federally operated laboratories to enter into cooperative research and development agreements (CRDAs) with private parties with a minimum of headquarters review. It establishes the principle of royalty sharing for federal inventors and sets up a reward system for other innovators. The Act also creates a federal charter for the Federal Laboratory Consortium for Technology Transfer (FLC) and provides stable funding for that organization to carry out its work. Implementation of the Act during the two and one-half years since it became law has been mixed.

To assure more uniform implementation of the FTTA, the Committee on Science, Space, and Technology commissioned the General Accounting Office (GAO) to conduct two projects related to the Act. One study focused on interviews with laboratory and agency officials to ascertain general progress and problems encountered in implementing the Act. The second project was the development of questionnaires for headquarters and laboratory personnel to learn

the extent of compliance with the Act and to collect information on the methods and programs various agencies and laboratories have developed in complying with the Act. Independent of Committee activities, the Department of Defense's Inspector General has been investigating that agency's degree of compliance with the requirements of the FTTA.

Summary of Hearing

On June 1, 1989, the Subcommittee on Science, Research and Technology held a hearing to assess the current status of the implementation of the Act and to learn from representatives of the federal laboratories that have successfully implemented the Act, the extent to which their efforts can be applied at other laboratories. Witnesses included representatives of the GAO, the FLC, officials of various federal laboratories, as well as the Department of Defense.

The GAO representative, Mr. John M. Ols, reviewed their report, commissioned by the Committee on Science, Space, and Technology, on the progress twelve federal agencies and twenty-five of their laboratories have made in implementing the Act. He was accompanied by Ms. Cynthia Wolford who described a questionnaire GAO has developed at the Committee's request to ascertain compliance with the Act and problems with its implementation.

The representative of the FLC, Dr. Loren Schmid, described how the FLC is facilitating cooperation between universities, the federal laboratories, and industry. He also explained the infrastructure of the FLC, and reviewed some of the accomplishments in its two and one-half years of existence, including the establishment of a clearinghouse for matching laboratory expertise to technical requests.

Officials from other federal laboratories reported on the status of technology transfer at their laboratories. Dr. L.H. Princen, the Director of the Northern Research Center of the Agricultural Research Service (ARS), United States Department of Agriculture (USDA) pointed out that ARS has entered into 66 CRDAs, and is negotiating for 32 more, including a number of them with the Biotechnology Research and Development Corporation (BRDC).

The representative of the Department of Defense's Electronics Technology and Devices Laboratory (ETDL), Mr. Richard Stern, mentioned that ETDL has a number of CRDAs in such fields as microelectronics, nuclear magnetic resonance imaging, magnesium manganese dioxide batteries, and high energy switching. He also noted that these CRDAs have great potential for commercial applictions, and usually include two to eight participants, drawn from industry and academia.

The technology transfer official from the U.S. Public Health Service (USPHS), Dr. Reid Adler, drew attention to the increasing number of CRDAs within the USPHS. He noted that about 100 CRDAs have already been signed, many through the National Institutes of Health (NIH), and about 80 more are in various stages of negotiation. The Deputy Assistant Secretary of Health is responsible for coordinating technology transfer issues within the USPHS, assisted by a technology management advisory board. The USPHS has established a policy for ensuring fair access in entering into

CRDAs. Dr. Adler's testimony also described in detail how the USPHS was carrying out the various provisions of the FTTA.

The Department of Defense (DoD) headquarters witness, Dr. George P. Millburn, was accompanied by representatives from each of the Armed Services. They discussed the Department's funding of research and development (R&D), provided the dollar amounts allocated for R&D, and pointed out that much of this R&D support is dual-use technology, applicable to both defense and commercial requirements. They also described the potential impact on technology transfer of the Freedom of Information Act and Federal Government conflict of interest statutes of regulations, as well as the need to copyright government-generated intellectual property. National security concerns also place limits on the commercialization of some technologies that most other agencies do not face.

The hearing reinforced the Committee's impression that implementation of the FTTA has been uneven. Agencies such as the NIH and the USDA have put forth substantial effort to implement the FTTA and have proven the Act's worth as a tool for transferring innovations from the Federal Government to the private sector. The hearing also pointed up the showness of the DOD in delegating to its laboratories the authority to enter into CRDAs. The Committee, therefore with the assistance of the GAO, will continue to work for full implementation of the FTTA. Committee Publication Number 101-25.

3.7(j)—U.S. Supercomputer Industry

Background

Supercomputers are the fastest and most powerful general purpose scientific computing systems available at a particular time. They offer a level of performance significantly greater than any widely available computer built for commercial use. The term "supercomputer" arose in the early 1960's with the development by Control Data Corporation of a new class of computers which achieved a performance level of one million arithmetic operations per second. From 1966 to 1986, the peak performance figure for supercomputer speed has grown by a factor of 1000 and continues to accelerate.

Supercomputers have emerged as powerful aids to scientific and engineering research, to product and process development, and to all aspects of manufacturing. Supercomputers are used to predict the weather, design buildings, design and manufacture aircraft and automobiles, locate oil reserves, and design new drugs. In certain national defense areas, including electronic intelligence, code breaking, and nuclear weapon design, supercomputers are indispensable. Moreover supercomputers permit scientific explorations never before possible in such fields as astronomy, global climate modeling, molecular biology, and elementary particle physics.

The U.S. has provided international leadership in high performance computing from the inception of digital computers in the 1940's and has maintained preeminence through the 1970's. In the 1980's serious competition arose from Japan, which has introduced machines which are in the same league with current computers produced by Cray Research, the world leader. The principal Japa-

nese competitors, NEC, Fujitsu, and Hitachi, are very large companies with the financial strength necessary for the large research and development costs associated with manufacturing supercomputers. These Japanese companies can also afford to offer large discounts on their supercomputers in order to penetrate new markets, since supercomputer sales comprise only a tiny portion of their total revenue.

Cray Research had 55 percent of the world share of the supercomputer market in 1988, which accounted for most of the U.S. share of the market. However, Cray's dominance has been lessening, and the spin-off in 1989 of a new, small supercomputer company headed by Cray's founder, the renowned computer designer, Seymour Cray, adds additional uncertainty. The other principal U.S. manufacturer, Control Data, left the supercomputer market entirely in 1989 with the demise of its subsidiary, ETA Systems. Concerns are now being raised that in the coming years the U.S. supercomputer industry could go the way of the newly vanished domestic consumer electronics industry.

Summary of Hearing

The Subcommittee on Science, Research and Technology held a hearing on June 20, 1989, to obtain the views of several U.S. high performance computer companies on the competitive position of the U.S. industry relative to that of Japan and on policies the Federal Government could institute in order to bolster the supercomputer industry. Witnesses from academe and the Office of Technology Assessment provided overviews of the current status and trends in supercomputer technology and in the worldwide supercomputer market.

The industry witnesses strongly endorsed the traditional role of the Federal Government is a good customer for supercomputers. In particular, the prevailing view was that the government should purchase prototypes and early production models of new supercomputers in order to stimulate new developments in the industry, as well as provide wide access for government R&D personnel and R&D contractors to the most advanced supercomputers. A related recommendation was that federal procurement regulations should be revised to remove supercomputers from the category of automatic data processing equipment. This action would relax the requirements for competitive procurement, which are often not suitable since particular supercomputers tend to have unique operating characteristics.

Three main points emerged from the hearing relative to international trade in high performance computers. The first was that Japanese supercomputer companies should not be allowed to penetrate our domestic private sector market by means of offering deep discounts—essentially dumping their products. The second point was that U.S. vendors should be allowed access to foreign markets without artificial restrictions. In particular, practices in Japan were cited which essentially prohibit U.S. vendors from selling to the public sector market. The final point was that restrictions on export should be applied only narrowly to the most advanced systems which have national security implications. In particular, the definition of "supercomputer", for export control purposes, should

take into account the rapid advancements in the technology to ensure that extraordinary controls are applied only to leading-edge technology. In regard to the latest massively parallel computers, the further point was made that we should encourage export of those machines to Europe and Japan so that the parallel applications software, which is now under development in the U.S. and abroad, is written for U.S. manufactured hardware.

A serious concern raised at the hearing was the relative slowness of U.S. industry to take advantage of the potential benefits of supercomputers in the areas of product design and manufacturing processes. It was remarked that the Japanese supercomputer market is growing at the rate of 30 percent per year versus 10 percent in the U.S. In addition, two-thirds of Japanese supercomputer market is growing at the rate of 30 percent per year versus 10 percent in the U.S. In addition, two-thirds of Japanese supercomputers are in the private sector, while the reverse is true in the U.S. Some of the suggestions made to increase supercomputer use by American industry included federal initiatives to encourage R&D cooperation among industry, academe and government; and federal investment tax credits or accelerated depreciation for companies acquiring high performance computing systems.

Finally, several witnesses brought up the importance of a strong federal role in the development of trained scientists and engineers to advance or capabilities in high performance computing. Requirements exist for more computer scientists to accelerate the development of new ideas in parallel and in traditional supercomputing systems, leading to the design and manufacture of computer systems that deliver predictable high performance and that are easy to use. Also, greater university-based research support is needed to advance the applications of supercomputers in new areas of science and engineering and, especially, to develop the software necessary to exploit multiple processor computers. Committee Publication Number 101-45.

3.7(k)—Effect of Corporate Restructuring on Research and Development

Background

Industrial expenditures for research and development (R&D) account for half the R&D spending in the U.S. and are the backbone of the U.S. effort to maintain its technological leadership. In the uncertain financial environment of the 1980's, however, corporate commitment to long term investments such as R&D is increasingly difficult. Leveraged buyouts (LBO's) or even the financial maneuvering necessary to prevent them, often result in high levels of corporate debt. To achieve the large cash flows necessary to service this debt, companies frequently come under pressure to increase efficiency and cut costs by eliminating or deferring expenditures and investments. In addition, financing takeovers diminishes the supply of capital available for investment in our future technology base. Many, in both the public and private sectors, believe that debt-financed LBO's have had an adverse effect on the level of corporate research and development, and a subsequent impact on the nation's industrial competitiveness.

The National Science Foundation (NSF) 1989 Annual Survey of Industrial Research and Development indicates that industries heavily affected by takeovers and restructuring pressures showed a decline in R&D spending for 1986 and 1987. Across all U.S. industry, moreover, growth in R&D spending has been slowing since 1984. If this trend continues, the U.S. technological base and ability to compete in the future could erode. Other studies have also indicated that LBO's are focused in industries with low research intensity. The traditional high research industries, such as pharmaceuticals, aerospace, and computers, seem to be less prone to takeovers.

Summary of the Hearing

On July 13, 1989, the Subcommittee on Science, Research and Technology held a hearing to assess the effects of corporate restructuring, particularly LBO's, on R&D. Witnesses included representatives from the Office of Technology Assessment, the NSF, academic and other educational institutions, and private industry.

Testimony presented at the hearing demonstrated that opinions differ on the impact of LBO's on R&D. Some witnesses argued, on the basis of their analyses of LBO's that LBO's had a demonstrably negative effect on R&D investment, causing sharp declines in spending for future R&D. Other witnesses, maintained that, to the contrary, LBO's caused noticeable increases in expenditures for R&D. It was also suggested that the discrepancies between the various analyses of LBO's were the result of different statistical criteria used to measure the impact of LBO's on R&D. Another suggestion, made by several witnesses, was that current examinations of LBO's covered only a few years, and that more time was needed before one could accurately assess the impact of LBO's on R&D. One witness recounted negative experiences with an LBO, demonstrating that LBO's can cause a decrease in R&D, and argued that LBO's should be examined on an individual basis to determine what, if any, are their effects on investment in R&D. Committee Publication Number 101-36.

3.7(i)—International Standardization: The Federal Role

Background

Standards are becoming increasingly important as methods to ease or block free trade throughout the world. Increasingly, more countries are requiring compliance with standards that had been either non-existent or voluntary, before products can enter their markets. The importance of international standards could be heightened by efforts to harmonize European Community (EC) standards in preparation for the unified market of 1992. The U.S will no longer be the world's largest market, and U.S. standards may be less likely to become the *de facto* world standard.

The two major private-sector international standard-setting organizations are the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC). Each nation is represented in ISO and IEC by a national standardization organization, called a member body, which tries to advance its country's interests throughout the process of developing international standards. Most member bodies in ISO and IEC are either

government institutions or organizations incorporated by public law.

As with most areas of technology and industrial policy, foreign governments play a more active role than the U.S. in supporting voluntary standardization activities, both domestically and internationally. Most other developed countries subsidize their member bodies in international standards organizations. In the U.S., voluntary standards are managed by a diverse, scattered, and largely uncoordinated network of private sector entities. The member body representing the U.S. in both ISO and IEC is the American National Standards Institute (ANSI).

Standards assistance to developing countries is becoming a trade weapon of our major rivals in these markets. Donations have ranged from standards codes and libraries to on-site assistance by Japanese, German, and French standards experts. Concern over American industry's ability to adequately represent its interest in the standardization activities of developing countries arose during the 100th Congress. The Dymally amendment to the National Institute of Standards and Technology Authorization Act for Fiscal Year 1989 (P.L. 100-519, Section 112a), required the Commerce Department, acting through the Director of NIST, to establish a privately-funded program to assist other countries in the development of domestic standards that are compatible with standards used in the United States.

This provision was intended to provide for U.S. participation in an ongoing program in Saudi Arabia to develop a standards code that will affect over 42,000 products. Five other member states of the Gulf Cooperation Council (Bahrain, Kuwait, Oman, Qatar, and the United Arab Emirates) intend to adopt the Saudi code. Saudi Arabia alone each year imports over $20 billion from around the world and the U.S. share of this market is slipping. Saudi Arabia had requested the U.S. to have its own standards expert on site in Saudi Arabia to participate in standards activities. The pilot program was to be funded through voluntary contributions from the private sector. However, since enactment of P.L. 100-519, only $100,000 had been raised. In 1989 Congressman Dymally introduced H.R. 2468, to authorize the appropriation of funds for a pilot program to assist other countries in the development of their domestic industrial standards. The bill was referred to the Committee on Science, Space, and Technology and authorizes $200,000 for fiscal years 1990, 1991, and 1992 for the pilot program. Several other countries have requested similar assistance from NIST.

Summary of Hearing

On July 25, 1989, the Subcommittee on Science, Research, and Technology held a hearing to determine how the U.S. could improve its competitive position in international trade through more active involvement in the development of international standards. Witnesses included the Honorable Mervyn Dymally (D-CA), representatives of NIST, ANSI, the American Society for Testing and Materials (ASTM), and of a number of other U.S. voluntary standards organizations. Another participant in the hearing was the Director of the Standards Council of Canada, the Canadian agency which coordinates voluntary and governmental standards efforts.

Congressman Dymally focused on the importance of enacting H.R. 2468, to authorize funding for an American standards expert to work with Saudi Arabia in developing Saudi standards compatible with American products. In explaining the purpose of his bill, Mr. Dymally noted that Japan and other foreign countries are replacing the U.S. as the dominant trading partner of the Saudis, partially through their influence in the development of Saudi standards. H.R. 2468, is intended to help American companies to compete with foreign firms for the Saudi domestic market.

Mr. Ray Kammer, Acting Director of NIST, surveyed the activities of American and foreign standards organizations, and summarized U.S. activities in the development of international standards. President Manuel Paralta from ANSI and President Joseph O'Grady from ASTM described their respective organization's roles in the development of international standards and stressed the point that the Federal Government and the private sector should work as a partnership.

The hearing recessed for an informal discussion with Mr. John Woods, President of Standards Council of Canada. He shared with the Subcommittee the objectives and powers of the Council, the organization of standardization in Canada, the services that the Council provides, and their assistance to other countries in setting and developing standards.

Mr. Harry Lunt of Burns and Roe and Chairman of ASTM's A-1 Committee on Steel Standards, spoke about the U.S. need to participate in the development of international standards for steel production, particularly in light of the recent decision by the American Iron and Steel Institute to cease funding of its work in the ISO. He stated that it is essential for the U.S. steel industry to maintain its presence in the ISO; otherwise, they would suffer and fall behind foreign competitors in steel production and he felt the necessity of federal funds to achieve this objective.

Other panelists discussed the importance of the U.S. role in setting international standards, especially since the Europeans are seeking to establish many uniform standards by 1992, argued for a limited government role in setting standards in the U.S., and of the need to integrate support for voluntary international standards in U.S. trade policies.

Subsequent to the hearing, the Subcommittee on Science, Research and Technology included in the Department of Commerce Research and Technology Authorization Act for Fiscal Year 1990, 1991 and 1992, H.R. 3042, a pilot program based on H.R. 2468, authorizing $250,000 per year, to be matched by private sector contributions, for standards development assistance. Committee Publication Number 101-52.

3.7(m)—Research and Development ir the Construction Industry

Background

In 1988, the Subcommittee on Science, Research and Technology held a hearing to determine the level of research and development (R&D) activity within the U.S. construction industry and to assess the industry's ability to compete in domestic and international markets. Various witnesses disclosed a severe shortfall of private

construction R&D investments when compared to the efforts of other countries.

Estimates of the size of the construction industry vary. According to Mr. Jesse A. Pfeiffer, Jr. of the U.S. Army Corps of Engineers, in 1980, the construction industry represented approximately 13 percent of the gross national product (GNP). Mr. Timothy S. Killen, Manager of Engineering and Construction Technologies, R&D, Bechtel Group, Inc., estimates that new construction in the U.S. accounts for nearly 9% of the GNP and employs 5 million Americans. Local governments regulate construction through a variety of building codes which emanate from the three primary Building Codes. In addition, the industry regulates itself through various professional organizations, laboratories which establish standards and through manufacturers' specifications as these requirements become incorporated in the design of construction requirements.

The construction industry basically encompasses three major areas, housing, commercial, and heavy construction. Supporting these areas are architectural and engineering services, the manufacture of construction equipment and machinery, the supply of materials, transportation services and the supply of finished products used in construction.

Summary of Hearing

The Subcommittee on Science, Research and Technology held a hearing on September 12, 1989 to follow in more detail the concerns raised at the 1988 hearing about R&D in the construction industry. Witnesses included a panel of government construction research experts from the Center for Building Technology of the National Institute of Standards and Technology, the U.S. Army Corps of Engineers, the Department of Housing and Urban Development, and the Congressional Research Service. They were followed by university and industry experts in construction automation, design, and materials.

In the housing area, testimony indicated that while productivity was high, quality, for the most part, is questionable. Most single homes are built by a general contractor who frequently subcontracts for foundations, heating, plumbing, electrical services, gypsum wall board, painting, paving, landscaping, etc. Housing construction crews normally consist of a few employees and are generally very efficient. The profit motive assures high productivity, which can run counter to building in extra quality. Since the average consumer does not demand, and probably cannot recognize quality features, contractors are not motivated to furnish them. While some housing construction is prefabricated, the factory work is generally limited to panels without utilities, insulation or exterior siding. Windows and doors are generally completed in the factory ready for installation and final painting in the field.

The technology for more complete factory fabrication is available, but the cost of equipping a factory, including interest on debt, detracts from such an investment since the profit margin is too narrow compared to houses built on site. Applied research dedicated to reducing the thousands of connections used in framing, plumbing, electrical services, heating, interior finish, and finish carpentry might contribute to reducing the total man-hours and

cost needed to complete a dwelling. To this end, new materials, adhesives, and joining techniques could eventually be significant. The opportunities for affordable housing appear to lie outside the realm of technology. Its high cost is determined to a far greater extent by costs, external to the building process itself such as real estate, legal fees, and financing.

U.S. commercial construction appears to be state-of-the-art with many new medium- and high-rise modern office structures recently completed. Exotic shopping malls have become commonplace from coast to coast. Construction for light industry is also well advanced with up-to-date technology at reasonable cost. This type of construction is relatively easy to build with the exception of the high-rise structures.

The area of heavy construction may benefit from applied research. Even though the equipment and machinery has been improved, highway and rail projects, including bridge construction, require ever increasing schedules with sluggish productivity and escalating costs. Most projects are sponsored by State and Federal Governments. Both new technologies and streamlined procurement practices are urgently needed. At present, the U.S. infrastructure has aged while replacement structures are delayed. In heavy construction new technologies could be developed in support of high-speed rail transit, people movers, replacing water supply and sewer facilities, city gas mains, port facilities, and highways. However, governments still need significantly better methods for providing access to land and procurement of construction services.

Finally, the need for better interagency coordination was made clear. Several federal agencies are actively involved in construction R&D. The National Institute of Standards and Technology, the National Science Foundation, the U.S. Army Corps of Engineers, the Department of Housing and Urban Development, the General Services Administration, and other agencies have sizeable annual construction budgets. However, there is virtually no directed coordination among these agencies and, at present, federal R&D programs are largely underfunded. Committee Publication Number 101-55.

3.7(n)—Joint Production Ventures

Background

The National Cooperative Research Act of 1984 (P.L. 98-462), reported by the Committee working with the Judiciary Committee provided a limitation to single rather than treble damages under antitrust law for companies doing joint research projects which are registered with the Justice Department and the Federal Trade Commission. One of the purposes of this Act is to ensure that antitrust laws did not prevent companies from pooling their resources to pursue technological advances, thereby providing U.S. companies with the opportunity to improve their competitiveness.

U.S. companies are facing increased competitive pressures from foreign firms that are vertically integrated, have access to lower cost capital, receive government support, and have long-term strategies. To meet this competition some companies are looking beyond research and development to joint ventures in production. Several U.S. companies have formed joint production ventures with foreign

firms to gain expertise, entry into a foreign market or access to their capital. However, such ventures among domestic firms are rarer, in part because firms may fear that such arrangements could violate antitrust laws.

Summary of the Hearing

On September 19, 1989 the Subcommittee on Science, Research and Technology held a hearing to review the results of the National Cooperative Research Act of 1984 and to examine whether a statute is needed to permit joint production ventures. The witnesses included Mr. James F. Rill, Assistant Attorney General, Antitrust Division, U.S. Department of Justice; Mr. Claude E. Barfield, Director for Trade Policy Studies, American Enterprise Institution; Mr. Kenneth Flamm, Senior Fellow in Foreign Policy, Brookings Institution; Dr. Mauro DiDomenico, Director of the Technical Liaison Office, Bellcore; Mr. Peter Mills, Chief Administrative Officer, SEMATECH; and Dr. Charles Ferguson, Research Associate, Center for Technology, Policy and Industrial Development, Massachusetts Institute of Technology.

Testimony indicated that in general, the effects of the National Cooperative Research Act have been beneficial and it should be extended to joint production ventures. There were some cautions that antitrust is not the U.S. high technology industry's most pressing problem (that favoring a particular industry would create a national champion that would need additional support), and considerable joint venture activity existed before the Act was passed in 1984. Some witnesses called for additional support for the semiconductor industry beyond antitrust relaxation. Committee Publication Number 101–58.

3.7(o)—The National Nutrition Monitoring and Related Research Act of 1989 (H.R. 677; S. 253)

Background

During the past several years, the Subcommittee on Science, Research, and Technology, in conjunction with Subcommittees of the Committee on Agriculture, have held hearings on the adequacy of current nutrition monitoring activities and recommendations for enhancing the effectiveness and benefits of a comprehensive system. Public witnesses asserted that an effective nutrition monitoring system was imperative to the development of nutrition, agriculture, and health policies in the U.S., and that a legislative mandate would assist in establishing a central focus and identifiable resources for federal nutrition monitoring activities. In response to needs and recomendations suggested at these hearings, nutrition monitoring and related research legislation, similar in nature, was introduced in the 98th, 99th, 100th, and 101st Congress.

Companion bills H.R. 677 and S. 253, the National Nutrition Monitoring and Related Research Act of 1989, introduced in the 101st Congress were identical to S. 1081, which was pocket vetoed by President Reagan on November 8, 1989. H.R. 677 was introduced on January, 27, 1989 by Congressmen Brown of California, Roe, Walgren, Boehlert and 27 co-sponsors. The bill was jointly referred to the Committee on Science, Space, and Technology and the Com-

mittee on Agriculture. S. 253 was introduced on January 25, 1989 by Senator Bingaman and 15 co-sponsors. This Senate companion bill was referred to the Committee on Governmental Affairs.

Primarily the legislation is to: make more effective use of federal and state expenditures for nutrition monitoring; enhance the performance and benefits of current federal nutrition monitoring and related research activities; establish and facilitate the timely implementation of a coordinated National Nutrition Monitoring and Related Research Program; and establish a central federal focus for the coordination, management, and direction of federal nutrition monitoring activities. The legislation requires the Department of Agriculture and the Department of Health and Human Services to prepare jointly a 10-year plan for nutrition monitoring, creates an advisory council on nutrition monitoring, and requires both departments to review all dietary guidance.

On June 23, 1989, the Senate Committee on Governmental Affairs held a hearing on S. 253. The Committee met to discuss the bill on July 13, 1989, and ordered it favorably reported (S. Rept. 101-137). On November 3, 1989 the Senate amended S. 253 and passed the bill by unanimous consent. S. 253 was referred to the House Committees on Science, Space, and Technology and Agriculture on November 7, 1989.

Summary of Hearing

On September 21, 1989 the Subcommittee on Science, Research and Technology and the Subcommittees on Department Operations, Research, and Foreign Agriculture and Domestic Marketing, Consumer Relations, and Nutrition of the Committee on Agriculture held joint hearings on H.R. 677 and H.R. 1608, the Comprehensive National Nutrition Monitoring System Act (Introduced on March 23, 1989 by Congressman de la Garza and 5 co-sponsors and referred to the Committee on Agriculture). The objectives of the hearing were to determine the: current status of federal nutrition monitoring activities and plans for the next phase of surveys and infrastructure support; effectiveness of federal coordinating efforts and the resulting accomplishments in nutrition monitoring and related research; need for a legislative mandate for a national nutrition monitoring system; and degree to which recent recommendations to enhance the effectiveness of current nutrition monitoring activities have been implemented or are being given consideration.

Witnesses included representatives of the Departments of Agriculture and Health and Human Services; former nutrition coordinators of the Departments of Agriculture and Health and Human Services and a former Deputy Assistant Secretary of the Department of Agriculture; the director of a nutrition monitoring report contracted by the Departments of Agriculture and Health and Human Services; and representatives of nutrition, health and scientific societies, the Association of State and Territorial Public Health Nutrition Directors, and food and agriculture organizations.

Administration witnesses opposed H.R. 677, indicating that significant progress had been made in the past several years and that the bill is unnecessary and would even delay the implementation of the Administration's monitoring goals. Administration witnesses supported H.R. 1608 if the bill were amended to incorporate certain

changes—the most notable being the removal of the bill's veto arrangement on the issuance of dietary guidelines. Former nutrition coordinators of the Departments of Agriculture and Health and Human Services strongly supported H.R. 677 and indicated that a legislative mandate was essential for effective coordination and the development of a comprehensive national system for nutrition monitoring. The former Department of Agriculture administrator argued that the bill would create more paperwork, especially given the shortage of appropriations for nutrition monitoring. Witnesses representing nutrition, health and scientific societies, food and agriculture organizations, and state public health nutrition directors argued that: although some progress had been made recently, such progress was largely due to Congressional interest, oversight, and the threat of a legislative mandate; a national nutrition monitoring system was in the best interest of the public and such a system was not currently in place; the lack of a national nutrition monitoring system resulted in the ineffective use of federal and state funds; and H.R. 677 included the necessary components for an effective system, especially the inclusion of a mandated advisory council. Committee Publication Number 101–75.

3.7(p)—Field Hearing on Robotics Technology

Background

Robotics technology has the potential to be a powerful tool for increasing U.S. economic growth and for improving the quality of life. Because manufacturing is one of the most important sectors of our economy, and the U.S. global leadership appears to be declining, it is imperative that U.S. industries continue to enhance both product quality and organizational efficiency. One way of accomplishing this is by integrating new technologies, such as robotics, into those aspects of the manufacturing process where accuracy is critical and where human labor itself is not needed or is unsatisfactory. The innovative use of robotics for the improvement of health care, especially for disabled and elderly individuals, and the application of robotics technology at inhospitable sites, such as hazardous waste cleanup operations, are other areas that would benefit from further research.

Summary of Hearing

The Subcommittee on Science, Research, and Technology held a field hearing on the varied uses of robotics technology on September 25, 1989 at Carnegie Mellon University's Field Robotics Institute in Pittsburgh, Pennsylvania. The focus of the hearing was on the appropriate role of government, industry, and academia in the advancement of robotics research. The hearing concentrated on three specific areas where robotics is already making a difference: hazardous waste cleanup operations, health care applications, and automated manufacturing processes.

The first panel discussed the environmental benefits of robotics, and particularly the application of robotics for such tasks as hazardous waste cleanup. Witnesses included: Dr. William L. Whittaker, Director, Carnegie Mellon University Field Robotics Center; Mr. Vincent J. Esposito, Manager, Nuclear Service Division, Wes-

tinghouse Electric Corporation; and Dr. Melvin D. Montemerlo, Manager, Automation and Robotics, NASA Headquarters. The second panel focused on how robotics can be utilized to enhance human functional capabilities and help address labor shortages facing the health service industry. Witnesses included: Ms. K.G. Engelhardt, Director, Center for Human Services Robotics, Carnegie Mellon University; Dr. Terrence Carroll, Vice President for Support Services, Magee Hospital, Pittsburgh, Pa.; and Mr. Don Goughler, CEO, Southwestern Pennsylvania Human Services, Monessen, PA. The last panel discussed the role of robotics in automated manufacturing and the need for research organizations to develop manufacturing technology superior to our global competitors. Witnesses included: Dr. Friedrich B. Prinz, Professor of Mechanical Engineering, Carnegie Mellon University; Dr. John A. Simpson, Director, Center for Manufacturing Engineering, National Institute of Standards and Technology, Gaithersburg, Md.

The hearing pointed up the diverse applications possible from basic robotics technology and featured exhibits which were compelling evidence in favor of devoting increased resources to this field. Carnegie Mellon's field robotics efforts have already shown their worth in the clean-up of the site of the Chernobyl nuclear accident in the U.S.S.R. We are just beginning to understand the potential for this technology at hazardous waste sites. The human service potential of the technology was shown through demonstrations of how a quadriplegic can function in a kitchen or in an office assisted only by robots. This technology is less completely developed than the field operations. The automated manufacturing technology is advancing so that robots can continue to take on more sophisticated tasks. Given the aggressive research programs of Fanuc, a leading robotic producer in Japan, and other leading robotics companies overseas, much of the U.S. manufacturing base is at risk, if the U.S. does not mount comparable efforts. Committee Publication Number 101-56.

3.7(q)—Hearing on High Performance Computing

Background

In 1986, the Congress mandated the Office of Science and Technology Policy (OSTP) to "undertake a study of critical problems and current and future options regarding communications networks for research computers, including supercomputers, at universities and federal research facilities in the United States." OSTP chose to broaden the scope of this study to encompass the principal issues associated with high performance computing for scientific and technical purposes. The study was performed by the Committee on Comptuer Research and Applications of the Federal Coordinating Council for Science, Engineering, and Technology (FCCSET) and, consequently, represents the views of the principal agencies supporting R&D in computer and computational sciences and engineering. An OSTP report, "A Research and Development Strategy for High Performance Computing," submitted to Congress in November 1987, outlines a five-year, $1.74 billion program of federal initiatives in the area of high performance computers, software

technology and algorithms, networking, and basic research and human resources.

Following completion of the 1987 report, the FCCSET Committee began the process of defining the initiative in more detail and preparing an implementation plan for the High Performance Computing Program. The program plan was released as an OSTP document in September 1989. Again, the program was presented as a five-year initiative at a total estimated cost, above current program levels, of $1.9 billion.

The plan calls for creation of a national research and education network which would have the capacity to deliver 1 to 3 billion bits of information per second. The network would connect universities, government laboratories and industrial laboratories throughout the Nation. Joint research in computational science and engineering is proposed involving government, industry and university participation to pursue certain specified "grand challenges", such as weather prediction or speech understanding, which require the most powerful computing resources. Funding support would be used for development of theory, algorithms, and software, and for the acquisition of modern computing equipment. Basic research in computer science and high performance computing is specified for maintaining the stream of trained personnel to expand the research base and provide the people needed by industry to applying performance computing for creation of new products and services. Under the plan, innovative very high performance computing systems would be made available to universities and basic research laboratories for evaluation of their capabilities and for exploitation for research purposes, as well as to spur their use for industrial applications.

Summary of Hearing

The Subcommittee on Science, Research and Technology held a hearing on October 3, 1989, to review the OSTP plan for implementation of a multiple agency High Performance Computing Program. Federal witnesses included the OSTP Director and representatives from three agencies which are represented on the FCCSET Committee on Computer Research and Applications. Non-federal witnesses included representatives from academe and industry, with particular emphasis on the telecommunications industry and academic research and education network providers.

The OSTP Director stressed the importance of the High Performance Computing Program for almost every area of science and technology, the value of the balance achieved in the program goals, and the need for programmatic and budgetary flexibility in carrying out the program. Although unwilling to comment on possible FY 1991 budget levels, he indicated that the program would appear in the President's budget with technical goals and budget targets shown for each of the participating agencies. The other federal witnesses indicated that considerable enthusiasm is present in the agencies for carrying out the program, as illustrated by current funding allocations which have allowed parts of the program to be started. These witnesses also remarked on the unprecedented degree of coordination among the agencies in preparing the program plan.

The non-federal witnesses who critiqued the High Performance Computing Plan unanimously recommended that the program be started as soon as possible and expressed broad support for the program goals. Some concerns and cautions were raised regarding implementation of the National Research and Education Network (NREN). The academic and industry witnesses stressed the importance of having a voice in the detailed planning for NREN. Some appeared to be skeptical that an advisory committee structure would be sufficient to ensure that the planning process is comprehensive, particularly regarding issues associated with day-to-day management of the network. The representative of the regional networks suggested that a strong management structure created by statute would be desirable and that the implementation plan did not give enough attention to providing end-user support. Committee Publication Number 101-64.

3.7(r)—Federal Scientific and Technical Information Policy

Background

As part of its authority under the Paperwork Reduction Act, the Office of Management and Budget (OMB) reviews all requests for information collections by federal agencies, such as the collection of economic data and nutritional status data. Concern has been expressed that the OMB review process, which is designed to meet mandated reductions in estimated burden to the public, caused by government paperwork, has limited the ability of research agencies to collect scientific and economic data. Consequently, in September 1986, the Committee requested that the General Accounting Office (GAO) conduct a study of OMB's policies and practices for reviewing the collection of scientific and technical information by federal agencies, with special focus on the non-regulatory, non-statistical agencies. The study entitled, "Paperwork Reduction, Mixed Effects on Agency Decision Processes and Data Availability, Federal Scientific and Technical Information in an Electronic Age: Opportunities and Challenges" was completed in September 1989.

In addition, the Committee requested that the Office of Technology Assessment (OTA) do a follow-up study to the OTA report "Informing the Nation," to facilitate its review of federal information dissemination policies. A staff paper (in advance of the complete study) entitled "Federal Scientific and Technical Information in an Electronic Age: Opportunities and Challenges" was released in October 1989.

Summary of Hearing

The Subcommittee on Science, Research and Technology held a hearing on October 12, 1989 on federal scientific and technical information policy which focused on the above two studies. Mrs. Eleanor Chelimsky testified that the GAO study had concluded that research oriented information collections seemed to suffer from the "chilling effect" of OMB review to a greater extent than other types of information collections. In addition, the GAO found that OMB review was not always systematic, and that review staff lacked professional training. Mr. David Plocher of OMB Watch questioned the GAO's finding that research collections suffered dis-

proportionately, and presented an alternative view that it was not so much research collections, but collections from agencies such as the Environmental Protection Agency (EPA) and the Occupational Safety and Health Administration (OSHA) which had difficulty, and that the OMB review process screened these collection requests for political reasons. In written testimony submitted by the Office of Information and Regulatory Affairs, OMB supported (and has agreed to implement) GAO's recommendations, but at the same time strongly disagreed with the methodology and findings of the study.

Dr. Fred Wood, author of the OTA staff paper, stressed the importance of developing a government-wide policy for the dissemination of scientific and technical information, the need for Office of Science and Technology Policy (OSTP) leadership, and the potential of new technological solutions. The sheer volume of scientific and technical information presents unique management and dissemination problems to the federal science agencies. Professor Charles McClure of Syracuse University, while generally agreeing with the conclusions of the OTA staff paper, questioned its heavy emphasis on new technology, and its lack of focus on potential users of scientific and technical information. Committee Publication Number 101-63.

3.7(s)—The 1989 Presidential Awards for Excellence in Science and Mathematics Teaching

Background

The Presidential Awards for Excellence in Science and Mathematics Teaching Program was established in 1983 by P.L. 98-377, Education for Economic Security Act, and provides national recognition of outstanding middle and secondary school teachers. Every year one mathematics teacher and one science teacher are selected for this honor from each state, the District of Columbia, the Commonwealth of Puerto Rico, the Trust Territories, and the Department of Defense schools. The programs seeks to enhance the status and visibility of the teaching profession by identifying and rewarding exemplary teachers. The awardees assemble in Washington, D.C., for a week of activities and professional interaction. Each Presidential Award is accompanied by a National Science Foundation (NSF) grant of $5,000, to be used at the teachers' discretion, to improve science or mathematics education at the awardees' home institution.

Eligible teachers are those whose primary responsibility is classroom teaching of science or mathematics in a public or private middle/junior or senior high school. A minimum of five-year teacher experience of science or mathematics is required. Teachers can be nominated by colleagues, administration, students, or parents.

Summary of Hearing

On October 24, 1989 the Subcommittee on Science, Research and Technology met for the purpose of receiving recommendations for improving science and mathematics education from the 112 winners of the 1989 Presidential Awards for Excellence in Science and Mathematics Teaching. This informal hearing began with introduc-

tions by Mr. Erich Bloch, Director of the NSF, of four of the awardees who gave recommendations based on their experiences in the classroom. Other awardees attending the hearing were also given the opportunity to present their views orally or in writing for the record. This session was the very first time the Presidential Awardees met as a group with any Committee of Congress.

In their comments, the teachers stressed the importance and usefulness of NSF teacher institutes and workshops. The quality of education rests directly on the abilities of classroom teachers. The teachers emphasized the need to begin teaching students science and mathematics in the early years of education (i.e., primary school grades). If children do not receive instruction in science and mathematics early, or have unsatisfied experience with these subjects, they will form unfavorable attitudes that will last throughout their lives. Many teachers expressed opposition to the idea of lengthening the school day or school year. Instead, more emphasis must be placed on important academic subjects with the current structure. Committee Publication Number 101-71.

3.7(t)—Science and Mathematics Education and Literacy and the Science and Technological Literacy Act (H.R. 3122)

Background

One of the fundamental challenges facing our political, business and educational leaders will be the successful preparation of future generations of Americans to meet the demands of an increasingly technological workplace. The future strength and prosperity of the Nation will depend upon our ability to outfit the American workforce with the skills necessary for the factory, service industry or office of the future.

In response to these concerns, Rep. Price introduced H.R. 3122, the Science and Technological Literacy Act of 1989. H.R. 3122 has three major components: authorizes National Science Foundation (NSF) funds for the development of new science and mathematics curricula; establishes a program in NSF for grants to promote and support the development and dissemination of innovative technologies in science and technological literacy instruction; and authorizes matching grants to two-year and community colleges for improvements in technician training programs.

H.R. 3122 builds on a number of studies that have been released which reflect the growing national awareness of the relevance of education, training and retraining to international economic competition. These reports point to the low student participation rate in science and mathematics beyond the 10th grade, a 20 percent high school dropout rate (soaring to 60 percent in some urban areas) and high levels of functional illiteracy in the general population. further, the studies predict serious consequences for continued U.S. economic growth and leadership in the world economy.

The U.S. is also appearing to be falling short of even the modest goal of graduating children from school with the ability to read, write and utilize simple mathematics. In fact, conservative estimates place the number of "functionally illiterate" people in the U.S. at about 20 percent of the total population, i.e. one in five Americans cannot perform the most routine and mundane of ev-

eryday tasks. This Nation cannot afford a situation in which 20 percent of the labor pool is unable to read and another substantial portion cannot successfully learn and utilize basic scientific and mathematical principles. Economically, socially, and morally, this is unacceptable.

Summary of Hearing

The Subcommittee on Science, Research and Technology held a hearing on October 31, 1989 to examine issues relating to adult literacy, as well as science and technical education. The hearing began with testimony by former Governor Hunt of North Carolina. Governor Hunt discussed the current status of science and mathematics education, as well as innovative steps taken on the state level.

The second panel consisted of representatives from various federal agencies. The panel included: Mr. Ray Uhalde, Deputy Director of the Office of Strategic Planning and Public Policy Development, Department of Labor (DOL); Dr. Bassam Shakhashiri, Assistant Director, Science and Engineering Education, NSF; Mr. Christopher Cross, Assistant Secretary for Education Research and Improvement, Department of Education (DEd); and Dr. Linda Roberts, Project Director, Office of Technology Assessment. These witnesses discussed the activities sponsored by their respective agencies, as well as observations on the present and future needs for science and mathematics education.

The third panel included two witnesses that represented public-private partnerships that offer innovative means for literacy and pre-college science and mathematics education. The witnesses were: Dr. Frederick Stein, Director of Project PRISM in Philadelphia and Mr. Tim Songer, Director of Project READY in Wilmington, North Carolina.

The fourth and final panel included corporate officials in charge of literacy and technical training. Issues included the technical skills needed by industry, as well as current training programs sponsored by private industry.

All of the witnesses pointed out that a large portion of U.S. students and workers lack the necessary mathematics, science and literacy skills for employment in today's workplace. Former Governor Hunt stressed the necessity of raising standards for teachers in the area of subject knowledge, as well as consideration of innovative ideas for teacher certification. The representatives from Project PRISM and Project READY pointed out how public/private partnerships can make science and adult literacy training available to a large number of people at a relatively low cost. The federal witnesses (NSF, DEd, DOL) summarized their agency activities in education and training, as well as plans for interagency cooperation. The corporate witnesses described how programs sponsored by private industry prepare workers for specific jobs and the on-going need for updating job skills. Committee Publication Number 101-83.

3.7(u)—"What is a U.S. Company?"

Background

As the world economy grows more and more complex, and the U.S. wrestles with the dilemma of maintaining a healthy national economy, an increasing share of business is conducted by trans-national corporations. Therefore, it has become more and more difficult to characterize and define what constitutes a U.S. company.

The subcommittee has considered legislation, the Department of Commerce, Research and Technology Authorization Act for Fiscal Years 1990, 1991, and 1992 (H.R. 3042), that authorizes federal assistance to business research consortia to spur the development of advanced technology products, such as advanced television systems. The concept of authorizing federal assistance has raised the issue of whether foreign-owned firms should be permitted to participate in such government-aided consortia, which are designed to improve the competitiveness of the U.S.

This concept also raises the issue of whether limitations should be placed on U.S.-owned multinational firms that might transfer the knowledge gained in government-aided consortia overseas, through licensing agreements, joint ventures with foreign firms, off-shore production or other means. These issues are further complicated by the variety of forms of business alliances and institutional investments that make it difficult even to determine the ownership of a corporation.

Summary of Hearing

On November 1, 1989, the Subcommittee on Science, Research and Technology and the Subcommittee On International Scientific Cooperation held a joint hearing on defining a U.S. company, to help develop criteria for determining the kinds of firms that should be permitted to participate in government-aided business research consortia. Witnesses included: Dr. John Kline of the Georgetown School of Foreign Service; Dr. Robert Cohen, an independent economics consultant; Mr. Larry Hecht, President of the Iacocca Institute of Lehigh University; as well as representatives of North American Philips, AFL–CIO, and Sony Corporation of America.

Mr. Hecht argued that a U.S. company should be defined by the nationality of the controlling shareholders. He also expressed the view that all federally funded research should be based within the U.S., and that if such research involved technologies critical to national security or long-term competitiveness, it should be performed by U.S. controlled companies. Mr. Hecht recommended that foreign controlled companies should be allowed to participate in joint research ventures, if such research did not involve critical technologies, if the research was performed essentially within U.S. facilities, and if the foreign company provided matching funds.

Dr. Cohen argued that we cannot define a U.S. company solely by what happens in the U.S. and that we must look at what is going on in both Europe and the Far East. He promoted the idea that the way foreign governments develop regulations that promote industries and consortia at the expense, or benefit, of our own firms must be considered in the debate of "What Is a U.S. Company." He lamented what he viewed as a lack of national strategy in

the development of our electronics and related industries, and that the U.S. has not set priorities in these fields. In contrast, he noted, both Japan and the European communities have clearly defined strategies in these areas. He also argued that the U.S. should not open all of the doors to government-funded research consortia, when our own firms find these doors closed to them overseas, and that we should set eligibility requirements for foreign participation in our government-sponsored programs, and only remove them when our own firms can operate on a level playing field. Committee Publication Number 101-67.

3.7(v)—Federal Research Policy and the American Semiconductor Industry

Background

In recent years the U.S. semiconductor industry has slipped from its dominant position in world markets. Domestic manufacturers of semiconductors and electronic components have dwindled over the past several years, threatening the source of supply for the computer industry and the market for the semiconductor equipment manufacturers. Foreign competitors have significant government backing through large scale research and development projects. P.L. 100-418, the Omnibus Trade and Competitiveness Act of 1988, included provisions which should help revitalize the semiconductor industry in areas ranging from manufacturing technology research to chip production. The provisions included funding for SEMATECH and creation of the National Advisory Committee on Semiconductors. SEMATECH is a consortium of American semiconductor manufacturers, established in 1988, working with the U.S. Department of Defense and U.S. universities and other research organizations to sponsor and conduct research aimed at assuring global leadership by the U.S. in semiconductor manufacturing technology. The consortium is jointly funded by the Federal Government and the private sector. The National Advisory Committee on Semiconductors is comprised of both industry and government representatives and charged with the responsibility for developing a national semiconductor strategy.

Summary of the Hearing

On November 8, 1989 the Subcommittee on Science, Research and Technology held a joint hearing with the Subcommittee on Transportation, Aviation and Materials to review the progress of SEMATECH's start-up activities, the results of a report by the National Advisory Committee on Semiconductors, the current status of the U.S. semiconductor equipment and materials industries and the effect of government policies on those industries.

The Hon. Mel Levine (D-CA) was the lead witness. The first panel included Mr. John N. Ols, Director, Housing and Community Development Issues, General Accounting Office (GAO) and Mr. Glenn McLoughlin, Analyst, Economics Division, Congressional Research Service (CRS). Mr. Ols presented a 1989 GAO report entitled, "SEMATECH Consortium's Start-up Activities", and Mr. McLoughlin presented a 1989 CRS study entitled, "U.S. Semiconductor Manufacturing Equipment and Materials Industries, on the

status of the semiconductor equipment and materials industry. The second panel included Mr. Robert N. Noyce, Chief Executive Officer, SEMATECH and Dr. Craig Fields, Director, Defense Advanced Research Projects Agency. The third panel included industry representatives: Mr. Ian Ross, Chairman, National Advisory Committee on Semiconductors and President of AT&T Bell Laboratories; Mr. Larry Sumney, President, Semiconductor Research Corporation; and Mr. William H. Reed, President, Semiconductor Equipment and Materials International.

SEMATECH is working towards achieving its objectives and providing incremental technical developments. Substantial progress has been made in the construction of fabrication facilities, staffing the consortium, and developing manufacturing capability. SEMATECH is a good example of the pre-competitive cooperation necessary to become competitive.

The semiconductor industry is strategic, but U.S. suppliers of equipment and materials are vanishing and the vanishing infrastructure threatens the industry. If Perkin-Elmer is sold to other than a U.S. supplier there will only be one stepper manufacturer left in this country.

The witnesses felt that it is not too late to work toward restoring leadership in the industry. The state of knowledge of semiconductor technology in the U.S. is as good or better than that of any other nation. However, government and industry funding of research and development is declining. The following recommendations were made in the course of the hearing: 1) improve education in science and technology; 2) increase savings and the availability of capital; 3) demand equal access to foreign markets; 4) the industrial members of the Advisory Committee to provide the oversight of SEMATECH intended by Congress should be appointed by the Administration; 5) the Administration should reverse their direction of backing away from high technology initiatives such as HDTV, SEMATECH and DARPA funding of civilian technologies. Congressman Mel Levine also asked the Committee to write President Bush to clarify Administration policy. Committee Publication Number 101-81.

3.7(w)—The Fire Service Bill of Rights (H.R. 3587) and to Improve the Information Available to Emergency Response, Personnel in the Field (H.R. 2813)

Background

H.R. 3587, The Fire Service Bill of Rights was introduced on November 2, 1989, by Representatives Weldon, Gray, Walgren, Boehlert and 60 other co-sponsors and, was jointly referred to the Committee on Science, Space, and Technology, and the committee on Banking, Finance and Urban Affairs, which has jurisdiction over the sections of the bill relating to the minting of coins. H.R. 3587 authorizes the minting of a commemorative coin series honoring Benjamin Franklin, one of which would honor his role as founder of the fire service. Surcharges on the sale of the coins would be placed in a trust fund reserved for fire programs administered by the U.S. Fire Administration (USFA), including several new programs established by the bill.

The new programs would: provide a National Hero Scholarship to help pay college costs for children and spouses of fallen firefighters; provide scholarships for firefighters taking academic courses in fire protection, fire science and related programs; purchase for, and distribute to every fire department computer equipment that could be used for hazardous materials response; establish an independently operated National Fire Center and Museum in Washington, D.C. that would portray the history of the fire and emergency services; and provide a one-time grant to a single institution conducting research on burn injuries and burn prevention.

H.R. 2813, to improve the information available to emergency response personnel in the field, and for other purposes was introduced on June 29, 1989, by Representative Jan Meyers in response to a fire and explosion in 1988 in Kansas City, and referred to the Committee on Science, Space and Technology. The fire caused an explosion of hazardous materials, killing six firefighters. The fire department was unaware that explosive materials were stored at the site.

H.R. 2813 seeks to prevent a repeat of this event by ensuring that fire departments are adequately informed about the risks they face. The bill directs the USFA Administrator to review existing emergency response information nationwide to evaluate "its accuaracy and consistency, and to determine whether it is properly expressed." In addition, the Administrator is required to form an inter-agency working group that would submit recommendations within one year on how to improve emergency response information.

Both bills would amend the Federal Fire Prevention and Control Act of 1974, which created the U.S. Fire Administration as the federal focus for national fire problems and solutions.

Summary of Hearing

The Subcommittee on Science, Research and Technology held a hearing on November 14, 1989, on H.R. 3587 and H.R. 2813. The Subcommittee heard from Members of Congress, federal agencies and representatives of fire service organizations. No objections were raised to the basic thrust of H.R. 2813, which requires studies to improve the availability of information for those responding to emergencies. The International Association of Firefighters (IAFF) indicated they would oppose the bill if it delayed other efforts to implement improvements in information dissemination. The National Volunteer Fire Council (NVFC) indicated the bill needed implementation authority.

Several questions were raised about H.R. 3587, the Fire Service Bill of Rights. Congressman Weldon, one of the bill's sponsors, indicated he would support amendments clarifying that the bill does not authorize appropriations other than from the trust funds and that the "rights" listed in the bill are not legally enforceable. The Federal Emergency Management Agency (FEMA) had three primary objections to the bill: programs would be created that would require appropriations eventually, the "rights" would create "unrealistic expectations" on the part of the fire services, and the requirements that the National Fire Academy be under the U.S. Fire Administration interfered with the prerogatives of the Director of

FEMA. Fire service groups discussed several concerns. National Fire Protection Association and IAFF recommended that specifications for computer purchases be drawn up in careful consultation with fire and computer experts. NVFC thought the computer section was too narrowly tied to hazardous material uses. The National Fire Information Council reiterated FEMA's concerns about the need to provide adequate staffing and funding. The International Society of Fire Service Instructors recommend the bill provide for entry-level training. Committee Publication Number 101-76.

3.7(x)—Precollege Science and Mathematics Education

Background

The future standard of living in the U.S. is tightly linked to the generation of scientific and technological knowledge and, particularly, to the ability to transform that knowledge into products and services which will be competitive in the international marketplace. Moreover, into the 21st centruy and beyond, informed discussion of public policy questions, which increasingly revolve around technological issues, will require a basic level of scientific literacy in the general population. Therefore, the persistently poor showing of American students in international comparisons of student performance in science and mathematics is cause for concern.

The Committee on Science, Space, and Technology held a series of hearings in 1989 to explore activities now underway in the States and to review programs sponsored by the principal federal R&D agencies and by private sector organizations which address improvement of precollege science and mathematics education. The Subcommittee on Science, Research and Technology has held numerous oversight hearings over several years on National Science Foundation (NSF) initiatives in science education.

Past hearings have highlighted many programs designed to address shortcomings in science education, developed through the efforts of private sector and of federal and state agencies. However, these activities appear to be largely uncoordinated, and too little effort has been devoted to evaluating programs in order to identify the most successful ones. But even for programs which have been shown to be successful, no effective mechanism exists to disseminate information about the successes and to help in replicating the programs in local school districts.

Within the Federal Government, the Department of Education and the NSF have the principal responsibility for science and mathematics education. The President's FY 1991 budget proposed increases of about $200 million for science education programs, mainly in the Department of Education and the NSF. Unfortunately, the two agencies do not have a history of close interaction for coordination and planning purposes.

Summary of Hearing

On February 28, 1990, the Subcommittee on Science, Research and Technology received testimony from the Secretary of Education and the Director of NSF concerning steps the Federal Government could take to spur improvement in precollege science and mathematics education in the Nation's schools. During the hearing,

the Secretary and Director discussed collaborative undertakings by the two agencies and highlighted the kinds of coordination that occurs at staff level (assessed as inadequate but receiving management attention). The Secretary particularly stressed that he wished to have input from the Director relative to the reauthorization of the Higher Education Act in 1991.

In response to questions from Members, the agency heads defined and differentiated the roles of the two agencies. The principal differences are in the scale of their programs and in the large degree of prescription that constrains the Education Department, relative to NSF. Both witnesses were optimistic about the prospects for the Education and Human Resources Committee of the Federal Coordinating Council for Science, Engineering, and Technology (FCCSET) to be effective in focusing federal efforts in science education. But it was stressed that coordinated activities are needed among federal, state and local governments, as well as with the private sector, to make the kinds of lasting, structural changes needed in science education. Finally, in response to specific questions on the role of NSF in technician training, the Director responded that this has not been a focus of activity for NSF education programs, but that 2-year colleges are eligible, and receive funding, from NSF programs that support undergraduate education. Committee Publication Number 101-94.

3.7(y)—National Science Foundation Oversight

Background

The National Science Foundation (NSF) is an independent federal agency established in 1950 to promote and advance scientific progress in the U.S. NSF builds U.S. scientific strength by funding research and education activities in all fields of science and engineering at more than 2000 colleges and universities and other research institutions in all parts of the U.S. The NSF budget comprises only about 3 percent of the federal research and development budget of $67 billion in FY 1990. However, NSF provides about 25 percent of basic research funding at universities and over 50 percent of the federal funding for basic research in certain fields of science, including math and computer sciences, environmental sciences, and the social sciences. Moreover, NSF plays an important role in precollege and undergraduate science and mathematics education through programs of model curriculum development, teacher preparation and enhancement, and informal science education.

Scientific and technological innovation plays the leading role in increasing productivity in our economy. Since World War II, new technology has been responsible for nearly half of all productivity gains. Thus, science and engineering research and education provide the basis for present and future economic competitiveness. Basic research at academic institutions supplies a major part of the knowledge base supporting new industrial technologies and trains new generations of scientists and engineers, the human capital essential for sustaining the economic strength of a modern industrial society. Consequently, support of science and engineering research

and education is an investment in the future well-being of the Nation.

The NSF Authorization Act of 1988 (P.L. 100-570 , a five-year authorization, provided for doubling the NSF budget by the fifth year, FY 1993. The Administration's proposal for FY 1991 is $2.38 billion, an increase of 14.4 percent above the FY 1990 appropriation to NSF. The proposed increase is consistent with doubling the budget over a five-year period, but the doubling date has slipped by about two years relative to the authorization law. The proposed FY 1991 increase of $229 million will allow for large increases for science, math and engineering education and for supporting new investigators; a doubling of the NSF portion of the U.S. Global Change Research Program; new construction of large national research facilities for astronomy and materials science; and, expansion of the Science and Technology Centers program.

Summary of Hearing

On March 6, 1990, the Subcommittee on Science, Research and Technology held a hearing to review the proposed FY 1991 budget for NSF in light of the current authorization levels (P.L. 100-570) and recent Committee reports on NSF. Of particular interest were the balance among types of programs and on proposals for significant program augmentations and for new initiatives. NSF was represented at the hearing by the Director and by the Chairman of the National Science Board (NSB).

The NSB Chairman reiterated six priority areas for American science and technology which the NSB included in the 1989 "Science and Engineering Indicators" report: (1) more effective interdisciplinary research in industry and universities; (2) improvement in science education in elementary and secondary schools; (3) increased incentives to produce more scientists and engineers (attract best students to these fields); (4) increased support for basic research in universities; (5) improved coordination among universities, industry and government; and (6) stronger international cooperation in science and technology.

The NSF Director reviewed the FY 1991 budget request, discussed some administration changes regarding providing review information to unsuccessful research applicants, and described coordination activities with other agencies. In discussions with Members of the Subcommittee, the NSF Director expressed confidence in the Federal Coordinating Council for Science, Engineering, and Technology (FCCSET) as a source for planning and coordination of federal interagency research and development programs. He also described specific NSF activities regarding research in manufacturing, astronomy, the atmospheric sciences, and superconductivity. Discussions of science education centered on the new statewide initiative program and support for programs at 2-year colleges. Committee Publication Number 101-113.

3.7(z)—National High Performance Computing Technology Act (H.R. 3131)

Background

Progress in computer science and technology are linked to the Nation's prosperity, security and technological advancement. Many fields of science and technology require high performance computing and the existence of a high capacity computer network for advancements to be made. Specific problems in these fields are sometimes referred to as Grand Challenges and include: modeling and forecasting weather, and global climate changes; computational fluid dynamics applied to the design of hypersonic aircraft, efficient automobile bodies, and recovery of oil; structural calculations applied to pharmaceutical design, chemical catalysts, semiconductors, and superconductors; plasma dynamics for fusion energy technology and safe military technology; and mapping the structure of the human genome.

Although still the world leader, the U.S. is in a race with both Europe and Japan because of the importance of high performance computing in scientific and engineering research and development and as a productivity enhancer in many commercial applications. The pace of technological change in high-performance computing is rapid. The legislation proposes an approach for maintaining the dominant U.S. positions through coordinated and cooperative research and development efforts by government, industry and academe.

H.R. 3131 would require the Office of Science and Technology Policy (OSTP) to develop a five-year plan for a national high performance computing technology program, including definition of specific roles for the various federal research and development agencies and specification of funding levels for each agency needed to meet the program objectives. The plan would include the establishment of a multi-gigabit national research and education computer network (NREN) to link government, industry, and the higher education community. A national science and technology information infrastructure of data bases would also be developed with access through the network. The network would be created with the active cooperation of the computer and telecommunications industries and with the goal of eventually transitioning management and operation to the commercial sector.

Other parts of the five-year plan would lead to increased federal research and development of high performance scientific computer software, with particular goals of promoting development of interoperable software for use on different computer systems and development of artificial intelligence software. In addition, the plan would encourage federal purchase of the most advanced supercomputers produced by U.S. manufacturers for our national laboratories, including prototye or early production models. Finally, the plan would expand federal efforts in support of basic research in computer science, computational science, electrical engineering and materials science. Research in these fields would be expected to advance computer technology while training new users of high performance computing.

H.R. 3131 authorizes $140 million in FY 1990, $230 million in FY 1991, $370 million in FY 1991, $460 million in FY 1993, and $550 million in FY 1994, for a total of $1.75 billion over the five years.

Parallel to the develoment of the legislation, OSTP through the Federal Coordinating Council for Science, Engineering and Technology (FCCSET) has been developing an interagency research and development plan for high performance computing. An outline for implementation of this program over a five-year period at a hearing before the Subcommittee on October 3, 1989. Many of the goals and features of the OSTP plan are reflected in the legislation. The Senate Committee on Commerce, Science, and Transportation has held several hearings on a companion measure, S. 1067.

Summary of Hearing

The Subcommittee on Science, Research and Technology held hearings on March 14 and 15, 1990, to obtain views on H.R. 3131 from the Administration; from academe, including the library community; and from the computer telecommunications and information industries.

The Director of OSTP indicated that the program is one of four high priority activities being addressed by his office. While he supports the program, he does not support the legislation because he believes it limits the Administration's future options, and prefers a broad-based program that maintains flexibility and allows agencies to evaluate their high performance computing plan annually.

The hearing demonstrated uniform support for the bill among all other witnesses. This support can be attributed to the balance among research, education, high performance computing, and networking portions of the legislation. Additionally, three panels of witnesses testified in support of the need for standards for the NREN, with only one witness cautioning against being tied too rigidly to the past by outdated standards.

Commercialization of the NREW was discussed with a useful distinction being made between privatization and commercialization. The point is that the NSFNET backbone is largely commercialized now: the fiber circuits are leased from the private sector, and MERIT is the company which won the contract to enginer and operate the network. Privatization is viewed as acquiring network services from the for-profit suppliers in the private sector. A university chancellor noted the concern that premature privatization could slow the development of the needed services due to economics and that pricing might exclude all but the largest and richest academic and research institutions.

One other issue which received particular attention involved massively parallel computers. The point made was that the installed base of such computers is inadequate to assure that significant progress is made on development of software suitable for solution of scientific and engineering problems. The suggestion made was to increase emphasis on massively parallel computing in the interagency plan. Committee Publication Number 101-115.

3.7(aa)—Quality Improvement in the United States

Background

The Malcolm Baldrige National Quality Improvement Act of 1987 (P.L. 100-107), named for the late Commerce Secretary Malcolm Baldrige, established an award to recognize and publicize quality achievements of U.S. companies. The award is given annually in three categories: manufacturing, service business, and small business, with no more than two awards in each category. Firms applying for the award must undergo a rigorous evaluation by an independent board of examiners composed of private and public sector experts in quality, which includes on-site visits for those passing the initial screening. The purpose of the program is to encourage U.S. companies to stress quality so that they can compete more effectively with Japanese and other foreign companies, as well as to share their successful strategies with other companies. The program is financed primarily by the private sector; large companies pay $2,500 to apply and small companies with fewer than 500 employees pay $1,000. A report is required from the Secretary of Commerce to the President and the Congress after the program has been in effect for three years. In 1988, the first year the awards were given, the winners were Motorola Inc., and the Commercial Nuclear Fuel Division of Westinghouse Electric Corp., in the manufacturing category, and Globe Metallurical, Inc. in the small business category. Past winners have been presented their awards by the President in Washington, D.C.

In 1988, the Administration created the Presidental Award for Quality and Productivity Improvement to recognize outstanding service and efficiency improvement in Federal agencies.

Summary of Hearing

The Subcommittee on Science, Research and Technology held a hearing on March 20, 1990 to honor the 1989 winners of the Malcolm Baldrige National Quality Award and the winner of the first Presidential Award for Quality Productivity Improvement, and also to explore the progress of quality improvement in general. In 1989, the Baldrige Award recipients were Milliken & Compnay and Xerox Business Products and Systems. The winner of the first Presidential Award was the Naval Air System Command. Other witnesses included the Director of the Malcolm Baldrige National Quality Award Program, who provided a status report on the program; the Director of the Federal Quality Institute, who discussed the application criteria for the Presidental Award; a representative of the General Accounting Office (GAO) who described an in-progress study GAO was conducting on how formal quality programs impact on the productivity and profitability of American companies; and two industry witnesses who discussed their quality improvement techniques. All the witnesses agreed that the Malcolm Baldrige National Quality Award was having a tremendous impact on the whole quality improvement movement. Committee Publication Number 101-119.

3.7(bb)—Federal Research Policy for Semiconductors and Consumer Electronics

Background

Concern over the competitive position of the U.S. semiconductor and consumer electronics industry continues to grow as more U.S. companies are bought by foreign investors and some of the major electronic firms such as Intel and IBM form joint ventures with foreign firms to ensure that they can retain a share of the market. The dissolution of consortia such as U.S. Memories has created further concern that U.S. industry cannot provide an atmosphere for precompetitive research and development (R&D) without a change in government R&D policies or some form of direct government funding.

In response to the growing concern for the viability of the semiconductor industry, the National Advisory Committee on Semiconductors (NACOS) was established by the Omnibus Trade and Competitiveness Act of 1988 (P.L. 100–418) to provide recommendations for a national semiconductor strategy. In November 1989, the Subcommittee on Science, Research and Technology held a joint hearing with the Subcommittee on Transportation, Aviation and Materials on the Federal Research Policy and the Semiconductor Industry to review the progress of NACOS and to obtain an assessment of the competitive status of the U.S. semiconductor industry. The witnesses included the Chairman of NACOS and senior representatives from the major consortia involved in the research, development and manufacture of semiconductors in the United States. They presented a gloomy picture of Japanese domination of the world's semiconductor manufacturing capability. A particularly disturbing trend is the 50 percent reversal of U.S.-Japanese market shares between 1983 and 1989 for one of the most critical fabrication facilities, optical lithography. In general, during the decade 1978–88, the U.S. share of the old semiconductor market has decreased from 55 percent to 40 percent while the Japanese share has increased from 30 percent to over 50 percent.

Summary of Hearing

The Subcommittee on Science, Research and Technology held a hearing on March 29, 1990 to review the findings and recommendations of the National Advisory Committee on Semiconductors' first annual report (A Strategic Industry at Risk, November, 1989) and to obtain industry reaction to that report. The hearing opened with a statement from Congressman Mel Levine regarding his concern for the electronics industry and his proposed legislation to form the Technology Corporation of America to stimulate industrial research and development by providing low cost, long term capital to the electronics industry. Other witnesses included the Chairman of the NACOS, executives for the semiconductor industry including those involved in the development of the next generation semiconductor manufacturing equipment, and government experts who have performeed in-depth analyses of the competitiveness of the U.S. semiconductor industry in the gloal marketplace. The Chairman of NACOS summarized the recommendations of the Advisory Committee's first annual report. He stated that the semiconductor

industry is in serious trouble and that the Advisory Committee's recommendations are the first step towards developing a national strategy for the rejuvenation of the semiconductor industry. Three major reasons were cited for the decline of the U.S. semiconductor industry: (1) the difference in the business environment between the U.S. and its foreign competitors; (2) the shift in consumer electronics production market to East Asia; and (3) the lack of precompetitive research and development in the U.S. The NACOS report elaborates on each of these areas and provides several recommendations for initial steps toward a national semiconductor strategy. The most far-reaching NACOS recommendations call for the establishment of a Consumer Electronic Capital Corporation to provide low cost, patient capital to the electronics industry for research and development and for development of a national fiber optic network.

All the industry representatives strongly endorsed the NACOS recommendations and urged for an expansion of the NACOS charter to all major aspects of the electronics industry including telecommunications, industrial electronics, supercomputers, consumer electronics, medical diagnostic equipment. They stressed the national x-ray lithography development effort must continue if we are to be competitive in the manufacture of the next generation of semiconductors. The utilization of industry consortia was discussed as a means to facilitate precompetitive research and development in the electronics industry. Both the Semiconductor Research Corporation and the Microelectronics and Computer Corporation described the success they have had in transferring both basic research and manufacturing technology to industry. Conversely, testimony from the representative from the U.S. Memories consortium emphasized the fact that consortium cannot be formed until it is more clearly driven by the marketplace. Committee Publication Number 101-114.

3.7(cc)—U.S. Participation in the International Institute for Applied Systems Analysis

On April 18, 1990, the Subcommittees on Science, Research and Technology, on Natural Resources, Agriculture Research, and Environment and on International Scientific Cooperation held a joint hearing to review the appropriate U.S. role in and support for the International Institute for Applied Systems Analysis (IIASA). Witnesses included representatives from IIASA, the U.S. Member of the IIASA Governing Council, the Department of State, and the National Science Foundation. A summary of the hearing is found in the section on oversight activities of the Subcommittee on Natural Resources, Agriculture Research, and Environment. Committee Publication Number 101-110.

3.7(dd)—Metric Conversion by Federal Government Agencies

Background

Section 5164 of the Omnibus Trade and Competitiveness Act of 1988 (P.L. 100-418) amended the Metric Conversion Act by requiring that each Agency use the metric system of measurement in its

procurements, grants and other business-related activities. In the first year after the Act became law, metric conversion activities at most Federal agencies were minimal. Thus, the Committee requested that the General Accounting Office (GAO) undertake a survey of federal agency compliance with the requirements of the Metric Conversion Act amendments. The GAO surveyed 37 departments and agencies. Preliminary results confirmed that progress towards metrication in the departments and agencies surveyed was limited.

Summary of Hearing

On April 24, 1990, the Subcommittee held a hearing to review the findings of the GAO report. Assistant Comptroller General, J. Dexter Peach, noted that little real progress has been made toward metric conversion by federal agencies. With the exception of efforts underway in the Department of Defense, the General Services Administration, the Nuclear Regulatory Commission, and the Government Printing Office, agency commitment to metrication was lacking. The GAO report faulted the Department of Commerce for a lukewarm effort at interagency coordination and cited a number of agency complaints that lack of leadership had hampered conversion efforts. The GAO concluded that a more realistic and coordinated effort was necessary to achieve metrication.

The second panel consisted of witnesses from agencies with lead roles in metric conversion, that is, the Departments of Commerce, Defense and Education, and the General Services Administration. The Department of Commerce noted that, since completion of the GAO report, progress has been made, and that the Department fully supports the goals of the Metric Conversion Act, as amended. The General Services Administration noted that its agency guidelines would soon be issued and that the work of revising thousands of procurement standards would need to be addressed. Testimony from the Department of Defense noted that certain areas, especially the food and construction industries, were particularly difficult to convert to metric because of private sector practice, but that two new weapons systems were being designed and procured in metric, and that the up-front cost of metrication for these systems has been minimal (about 0.3% of system design cost). Although Department of Education metrication efforts to date have been minimal, the hearing raised the level of awareness of the issue within the Department.

The third panel consisted of representatives of agencies with large procurement budgets. The Department of Agriculture witness was unaware of existing metric programs within his Department, including any to assist farmers and food exporters in complying with international metric exporting regulations. The Subcommittee was disappointed to learn the extent to which the National Aeronautics and Space Administration (NASA) Space Station Freedom was being designed in customary measurements, but was pleased that, except for tunnel construction, the Department of Energy was designing and procuring the Superconducting Super Collider in metric. Subsequent to the hearing representatives from NASA assured the Subcommittee that all new NASA systems, beginning with the Earth Observing System, would be designed to metric specifications. Committee Publication Number 101–126.

3.7(ee)—Copyright Protection for Intellectual Property to Enhance Technology Transfer

Background

The 1903 Federal Copyright Act prohibits the Federal Government from copyrighting any of its materials. The Act was designed to ensure easy and inexpensive public access to federal documents. Today, however, the use of copyrights has expanded to cover computer programs. As a result, the provision barring all Federal Government copyrighting may now be hindering commercialization of federally developed computer software and a limited exception to the prohibition may now be good public policy.

In several studies, including a March 1988 survey by the General Accounting Office (GAO), federal laboratory officials cited the copyright prohibition as one of the major impediments to technology transfer. They argued that private contractors are reluctant to work with federal laboratories to develop or market software because there is no production to ensure that their competitors will not gain equal access to the same government materials to create cheap clones of successful programs.

Similar concerns about patent protection led the Committee to pass the Stevenson-Wydler Act of 1980, the Federal Technology Transfer Act of 1986, and the Patent and Trademark Amendments of 1980 (Bayh-Dole), to allow government contractors and licensees to base commercial products on protected patent positions in federally funded inventions. No such incentives exist for federal employees working on software or other innovations protected by copyright.

Summary of Hearing

The Subcommittee on Science, Research and Technology held a hearing on April 26, 1990 to explore whether the Federal Government should be allowed to copyright federally developed software to encourage its transfer to the private sector. Witnesses included representatives from government agencies (Department of Commerce, Department of Defense), Congressional analyses groups (General Accounting Office, Office of Technology Assessment), the Register of Copyright from the Library of Congress, legal experts and engineers from the Federal Government and industry who have had experience with the problems associated with lack of copyright of software developed in the federal laboratories.

With the exception of the witness from OTA, all the government witnesses strongly supported the need for copyright protection of federally developed software. The OTA representative cautioned that more needs to be known about the quantity, quality and the definition of the software to be copyrighted before initiating any legislation. The legal experts stressed the differences between software used for technology transfer versus information transfer and strongly supported the copyright of the former category. Several examples were cited where the transfer of technology in energy, aerodynamics, space and training curricula were inhibited due to the lack of the ability to legally protect the federally developed software associated with those programs.

The hearing concluded with a general agreement that copyright of federally developed software would enhance technology transfer but questions remain as to the legal definition of the software to be protected and whether such protection be afforded by a change in the copyright law or a modification in the Federal Technology Transfer Act of 1986. Committee Publication Number 101-117.

3.7(ff)—Transfer of Technology From the Federal Laboratories

Background

The Federal Technology Transfer Act (FTTA) of 1986 (P.L. 99-502) permits federal agencies to delegate authority to government-operated laboratories to collaborate with other agencies, private industry, state and local governments, and nonprofit organizations through cooperative research and development agreements (CRADAs). The 1986 Act and the Executive Order 12591 of April 10, 1987, Facilitating Access to Science and Technology, make technology transfer the responsibility of all federal scientists and engineers, and mandate that this responsibility be considered in employee performance evaluations. The Act establishes the principle of royalty sharing for federal inventors and sets up a reward system for other innovators. The Act also creates a federal charter for the Federal Laboratory Consortium for Technology Transfer (FLC), and authorizes stable funding for that organization to carry out its work.

Since implementation of the Act was mixed during the first two and one-half years after it became law, the Committee on Science, Space, and Technology commissioned the General Accounting Office (GAO) to conduct two projects related to the Act. One study focused on interviews with laboratory and agency officials to ascertain general progress and problems encountered in implementing the Act. The second project was the development of questionnaires for headquarters and laboratory personnel to learn the extent of compliance with the Act.

In June 1989, the Subcommittee on Science, Research and Technology held a hearing to assess the current status of the implementation of the Act. Witnesses included officials of various federal laboratories, and representatives of the FLC, the Department of Defense, and the GAO. The GAO witnesses reviewed their report on impediments to technology transfer and described the questionnaire that they were developing to probe the degree of laboratory and agency implementation of each of the sections of the FTTA. The hearing reinforced the Committee's impression that implementation of the FTTA has been uneven. The GAO agreed to test the questionnaire, and in November 1989 mailed it to several hundred laboratories. Other questions were mailed to agency heads and personnel officers. A hearing was scheduled in May 1990 to review the results of the GAO survey.

Summary of Hearing

The Subcommittee held a hearing on May 3, 1990 to discuss the results of the GAO survey and to focus on what future steps may be needed to achieve universal implementation of the Federal Technology Transfer Act. GAO officials testified on the basis of

preliminary findings that agency and laboratory implementation of the Act leaves room for improvement. Laboratories need more guidance from the agencies regarding implementation of the Act, establishment of Offices of Research and Technology Applications (ORTAs) at the laboratory level, and negotiation of Cooperative Research and Development Agreements (CRADAS). GAO also found that few laboratories now consider technology transfer activities as a basis for staff promotions and awards, and agencies need to encourage greater participation of their laboratories in the Federal Laboratory Consortium (FLC). Other witnesses included: representatives of the FLC, individual laboratories, and officials from the Federal laboratories who reviewed their organizations' technology transfer efforts and offered recommendations for improvement. Committee Publication Number 101-130.

3.7(gg)--Science and Technical Education

Background

Concern about the state of science education at all levels led to several hearings by the Committee during the 101st Congress. The full Committee held a series of hearings in 1989 to explore activities now underway in the states and to review programs sponsored by the principal federal research and development agencies and by private sector organizations which address improvement in precollege science and math education. The Subcommittee on Science, Research and Technology explored the National Science Foundation (NSF) programs for development of new curricular materials and for in-service teacher training during oversight hearings in 1989. In addition, the Subcommittee held hearings to review legislation to establish undergraduate scholarships in science, math and engineering (H.R. 996), to upgrade instruction in community colleges (H.R. 3122). Finally, in February 1990, the Subcommittee received testimony from the Secretary of Education and the Director of NSF regarding interagency planning and coordination of federal science education activities.

In order to provide a vehicle for consideration of several legislative initiatives to improve science and technology education, a Subcommittee draft education bill was prepared which incorporated parts of several bills: (1) a statement of findings including portions of H. Con. Res. 82 (Mr. Ritter); (2) an instructional technology section based on H.R. 3122 (Mr. Price) and H.R. 4331 (Mr. Buechner); (3) an informal science education section based on H.R. 3154 (Mr. Brown of California); (4) a community college section based on H.R. 1720 (Mr. Walgren), and H.R. 3122 (Mr. Price); and (5) an undergraduate instruction improvement section based on H.R. 2270 (Mr. Brown of California).

Summary of Hearing

On June 7 and 14, 1990, the Subcommittee on Science, Research and Technology held hearings to obtain a critique of the Subcommittee's draft science education bill, particularly the provisions involving informal science education and undergraduate level instruction.

On June 7, the NSF Director provided a general review of the recent reorganization of science education and human resource activities at NSF. His only specific comment on the legislative proposal was that no new authorization was needed or desired to carry out the kinds of programs included in the draft bill. NSF would prefer to have goals and spending authority from Congress, and then be allowed to design programs to achieve the goals. The need to move away from a piecemeal specification of programs and toward a comprehensive approach for science education was stressed.

Also on June 7, witnesses representing the Carnegie Foundation for the Advancement of Teaching, the Council of Scientific Society Presidents, large research universities, and small liberal arts colleges critiqued the section of the draft bill that established an undergraduate educator award at NSF. The witnesses all endorsed the legislative proposal and made some useful suggestions for improvements. Of particular interest was the suggestion to include additional institutional selection criteria for the awards in order to leverage constructive change within the awardees' universities.

On June 14, witnesses from four science museums of varying sizes commented on the informal science education provisions of the draft bill. The witnesses were uniformly complementary of the bill and stressed the importance of assistance with dissemination of materials and programs. The competitive grant award process at NSF for informal science education programs received praise. The representative of a new, developing science museum raised one concern that small museums might not be able to compete with large museums for awards.

In other testimony on June 14, the Head of the Directorate for Education and Human Resources at the American Association for the Advancement of Science emphasized the need to take a broad position in the bill on ways in which educational technologies could contribute to science literacy, expressed reservations about 2-year/4-year college partnership provisions, and strongly recommended that the bill authorize a traineeship program at NSF for graduate student support. Representatives of 2-year and 4-year colleges discussed ways to increase transfer of students from 2-year schools to pursue science and engineering studies in 4-year schools. Suggestions included: improve recruitment of students to 2-year schools for pursuing science and technology courses; provide better counseling to students in 2-year schools to ensure that interested students take the correct pre-engineering, as opposed to engineering technology, course work; and allow awards to be made to consortia of 2-year schools, which may as a group establish partnerships with 4-year institutions.

Finally, representatives from the private sector reviewed how the provisions of the bill relating to educational technologies could be strengthened by promoting existing innovative programs in addition to supporting development of new ones, by not duplicating existing commercial channels for distributing materials, and by providing greater resources for training teachers in the use of new technology-based materials. Committee Publication Number 101–150.

3.7(hh)—The Federal Role in International Standardization

Background

Standards are becoming increasingly important for easing or blocking free trade throughout the world. More and more countries are requiring compliance with standards before products can enter their markets. The importance of international standards is being heightened by efforts to harmonize European Community (EC) standards in preparation for the unified market in 1992. In addition to the EC, other regional trade blocks such as Japan and the remainder of the Pacific rim, Saudi Arabia and the remainder of the Gulf Cooperation Council, and the emerging third world countries in Africa and South America are all in the process of developing standards for their own domestic and export requirements. The U.S. will no longer be the world's largest market and U.S. standards will be less likely to become the de facto world standards as they have been in the past. Although this threat to U.S. competitiveness has been recognized for some tine, U.S. standards are not being promoted as aggressively as those of other countries. This situation could harm American industries seeking to export.

As with most areas of technology and industrial policy, foreign governments play a more active role than the U.S. government in supporting voluntary standardization activities, both domestically and internationally. Other developed countries subsidize their member bodies in international standards organizations. The U.S., which is represented in international standards activities by the American National Standards Institute (ANSI), is an exception. ANSI is a non-profit, umbrella organization that is funded by U.S. industry for the coordination of the development and dissemination of standards for a wide array of U.S. industries.

The U.S. voluntary standards system has served our domestic needs very well. This system has contributed to the safety, health and welfare of our society for well over one-hundred years. There is concern, however, in light of the more active approaches of our competitors, whether the current U.S. system for the development of standards requires modification to better represent U.S. interests in the international arena.

Summary of Hearing

The Subcommittee on Science, Research and Technology held a hearing on June 19, 1990 to explore the effectiveness of the current U.S. standards setting process in the development of international standards and the role the Federal Government should play in participating with other governments on standards matters. Witnesses represented a wide range of organizations that are involved in the development of both domestic and international standards including the Department of Commerce, the U.S. Trade Representative, ANSI, trade organizations and professional engineering societies.

The Federal Government witnesses stressed the need for more comprehensive participation by industry and government in the development of international standards but did not advocate any major change in the structure of the voluntary standards process now in place in the U.S. or an increased formal role for the Federal Government. The Department of Commerce Under Secretary of

Commerce for Technology urged the standards setting organizations to ensure that they make a sustained effort to improve the effectiveness of the U.S. international standards setting efforts. The U.S. Trade Representative reviewed the progress that has been made in the development of the Standards Code of the General Agreement on Tariffs and Trade to prevent standards from being used as trade barriers.

The ANSI representative cited the significant support from industry and several government agencies for ANSI to continue to be the national focal point for U.S. standards with the international community. The National Electrical Manufacturers Association (NEMA) witness stressed the need for more government participation in terms of sending qualified personnel to standards meetings and providing funding. He indicated that government-to-government negotiations might be required with regard to regulated products.

The professional engineering society representatives indicated that the present U.S. voluntary standards systems in the international arena lacks strong leadership and there is a compelling need for government oversight and a clear level of "due process" beyond private sector requirements. A framework was suggested for a Congressional Commission to study the problem and to make recommendations for revisions to the current systems. The hearing concluded with no clear consensus on the government role in the development of international standards or on the role ANSI should play. Committee Publication Number 101-135.

3.7(ii)—The Federal Role in International Testing, Certification and Quality Assurance

Background

Many products in the marketplace are tested by laboratories to ensure that they meet various performance, safety, environmental and other standards. In the U.S., most of the standards and testing apparatus is in the private sector. Industry groups set product standards, private laboratories test products to determine if those standards are met, and other private organizations accredit the laboratories. This is far different from the systems that exit abroad, in which laboratory accreditation standards and the actual accreditation of laboratories are either in the hands of the government or heavily influenced by it. There is an increasing danger that other nations will use their own conformity assessment procedures as barriers to American products. Other nations can refuse to accept American standards for accreditation of laboratories or can refuse to accept that American laboratories can accurately measure compliance.

U.S. concern is currently focused on the emerging conformity assessment requirements of the European Community (EC) which will replace more than a dozen bilateral agreements that are currently used between the U.S. and European countries. The EC has divided testing and certification into two categories, those for regulated and those for nonregulated products. For regulated products that require third party certification, testing and certification will be accomplished by laboratories accredited by the EC, which are

known as "notified bodies". For nonregulated products the EC is currently forming a new organization called the European Organization for Testing and Certification (EOTC). A key concern of U.S. industry is that the EC has stated their intent to allow only European laboratories to test and certify regulated products to be sold in the EC. This would have a significant adverse business impact on the private laboratories in the U.S. and on the cost to U.S. manufacturers required to ship their products to European laboratories for testing. There is potentially a similar problem with each major trade block.

Although the U.S. wants to reach a mutually acceptable approach on conformity assessment with our trading partners, we need to be cautious not to lower U.S. conformity requirements for the sake of mutual agreements with other nations. In the U.S., the marketplace, product liability laws, antitrust laws, and the U.S. courts, as well as government oversight, dominate the certification of product safety and health. This combination of forces is not always present in other systems of conformity assessment, which could result in less stringent requirements.

Identical conformity assessment systems in all countries are probably neither necessary nor practical. The challenge for the U.S. is to develop agreed to criteria for producing uniformly reliable and compliant test results to satisfy each trade block that we will deal with in the future. The methods for obtaining such a focal point and the amount of government involvement are the key issues.

Summary of Hearing

The Subcommittee on Science, Research and Technology held a hearing on June 26, 1990 to explore the relationship between the testing and certification process in the U.S. and overseas markets and to investigate whether a change in the federal role in testing, certification and quality assurance is needed. The hearing opened with a statement from Congressman Sisisky, Chairman of the Small Business Subcommittee on Exports, Tax Policy and Special Problems, in which he expressed deep concern over the lack of a single government or industry authority to coordinate and evaluate testing and certification programs and on the potential barriers that may be imposed on U.S. laboratories to test American products for the European market.

The witnesses at the hearing included representatives from the Department of Commerce, the National Institute for Standards and Technology, the American Council of Independent Laboratories, the American Association for Laboratory Accreditation, and private testing laboratories (Underwriters Laboratory, MET Electrical Testing Company). The Assistant Secretary of Commerce for International Affairs summarized the results of the delegation he led to the EC in June 1990 to discuss U.S. concerns regarding the EC's requirements for conformity assessment. He stated that the key problem is the EC's lack of a clearly stated policy regarding their acceptance of testing and certification results from non-EC laboratories. The EC prefers mutual recognition agreements based on the degree of reciprocity in place between the EC and non-EC countries on various aspects of trade. The Assistant Secretary concluded that

the U.S., as well as European manufacturers, deserve more coherence and uniformity in the U.S. system for product approval and acceptance. The NIST witness emphasized this point by stating that the U.S. needs a focal point for testing and certification and suggested that an implementation strategy be addressed on an industry-by-industry basis. The industrial experts stressed the need for a U.S. strategy to achieve fair trade through equal and competitive access to EC markets by U.S. manufacturers. There was a consensus among the industry witnesses that a study or a commission should be established to develop a national conformity assessment policy. Committee Publication Number 101-45.

3.7(jj)—Antarctic Minerals Policy

Background

Antarctic minerals and resource development have been of long standing concern to the scientific, as well as public policy community. In recent years, the U.S. and other nations with substantial interests in the region have increasingly begun to address these concerns. As a result of an eight year process, the U.S. together with some other nations in 1988 signed the Convention on Regulation of Antarctic Mineral Resource Activities (CRAMRA). This treaty, outlining the means for regulating exploration and development of Antarctic minerals, now requires Senate confirmation.

Even though the treaty has not been formally presented for confirmation, it has generated considerable controversy. While no minerals of any economic value have been discovered in Antarctica, the concern has been raised that ratification of the treaty would promote the development of mining and drilling in this environmentally sensitive region. France and Australia, as well as several prominent environmental groups, are on record as opposing the treaty and intend to seek instead a ban on any exploitation of the continent's resources. Treaty proponents argue that the strict controls in CRAMRA provide the only real means for protecting the Antarctic environment and that failure to approve the treaty will leave nothing but a gentleman's agreement to prevent minerals development.

Summary of Hearing

On July 12, 1990, the Subcommittees on Science, Research and Technology and on Transportation, Aviation and Materials held a hearing to explore several issues associated with CRAMRA, with preservation of the Antarctic environment, and with safeguarding scientific research activities in Antarctica. Witnesses included representatives of the Department of State, the National Science Foundation, academe, and environmental groups.

The Federal agency witnesses explained the current status of international discussions on how to proceed with CRAMRA or a replacement treaty. The State Department witness indicated that CRAMRA would not be submitted to the Senate prior to a meeting of Antarctic Treaty nations in the fall of 1990, which has been called to address the broad issue of protection of the Antarctic environment as well as to further discuss CRAMRA.

The witnesses from academe expressed support for efforts to safeguard the Antarctic environment and indicated that the scientific community is much more sensitive to this issue now than in the past. They also pointed out the need, in setting limits on mineral exploration, to take into account the similarity between geological surveys for scientific versus commercial purposes. The concern was to avoid undue restraint on legitimate scientific activities.

Finally, the witnesses representing the environmental groups strongly criticized CRAMRA and advocated an outright ban on any mineral exploration and extraction. They also expressed understanding of the importance of scientific research in Antarctica and indicated no wish to place severe restrictions on research activities. Committee Publication Number 101-154.

3.7(kk)—Earthquake Insurance and Hazard Mitigation

Background

The Loma Prieta Earthquake of October 17, 1989 has awakened concern about the potential consequences of a major, urban earthquake in the U.S. One or more earthquakes of a magnitude greater than the Loma Prieta event are expected to strike urban centers in the U.S. in the next several decades. This is not a problem limited to California; 39 states, and 200 million Americans, are at risk from moderate to severe earthquakes.

The consequences of a major urban earthquake could include $50 billion or more in direct damage, thousands of casualties, and economic and social disruption on a regional or even national scale. This problem is amplified because only about five percent of all homeowners purchase earthquake insurance. Thus, most homeowners do not have the financial protection that would allow them to recover their losses after a serious earthquake. In the case of the Loma Prieta quake, only about ten percent of all homeowners' losses were covered by insurance. As a result, federal disaster aid has been the only recourse available to many Americans after an earthquake.

Earthquake insurance has long been recognized as a potential mechanism for increasing earthquake preparedness on a national scale. A federal earthquake insurance program could have the benefit of reducing the need for federal disaster assistance, and reducing the economic disruption, damage and casualties caused by earthquakes. Two bills to establish a federal earthquake insurance and reinsurance program were introduced in the House of Representatives in the 101st Congress. H.R. 4915, Earthquake Hazards Reduction Amendments Act (Brown-Boehlert) and H.R. 4480, Federal Earthquake Insurance and Reinsurance Act (Swift-Dreier) would provide financial protection for homeowners by providing low-cost federal earthquake insurance. These bills would also protect the insurance industry from potentially catastrophic depletion of industry reserves in the event of a major urban earthquake.

The significant difference between H.R. 4915 and H.R. 4480 is the approach to mitigation of earthquake hazards. H.R. 4915 would link the availability of federal earthquake insurance and federal aid for development directly to the adoption of appropriate building codes and other loss-reduction measures by earthquake-prone com-

munities. H.R. 4480 emphasizes voluntary and incentive-based hazard mitigation measures that are not directly linked to the operation of the insurance program.

Summary of Hearing

On July 26, 1990 the Subcommittee on Science, Research and Technology held a hearing to explore the appropriate role of earthquake hazard mitigation in federal earthquake insurance legislation. The primary objective of the hearing was to assess the potential for federal earthquake insurance to increase earthquake preparedness, and to investigate the relative strengths and weaknesses of the earthquake hazard mitigation programs in federal insurance bills.

Witnesses included Congresswoman Nancy Pelosi, and Congressmen Al Swift, and David Dreier. Panel 2 included representatives of the Federal Emergency Management Agency (FEMA) Office of the Federal Insurance Administration. The FEMA representative stated that the Administration opposed enactment of both H.R. 4480 and H.R. 4915 in their current forms since neither bill satisfied the following six principles: correction of a market failure; actuarial fairness; hazard mitigation; federal oversight and control; deficit neutrality; and risk sharing.

Panel 3 consisted of representatives from the insurance industry, and the Chairman of the Expert Review Committee of the National Earthquake Hazards Reduction. The insurance representative presented the views of the Earthquake Project, a consortium of insurance companies, reinsurers, insurance agents and related groups that support H.R. 4480. The insurance representative expressed concern that the mandatory approach in H.R. 4915 that ties insurance coverage and mitigation may be counterproductive. The Chairman of the Expert Review Committee expressed support for H.R. 4915 because the bill contains a precondition that limits assistance and loans, if communities fail to adopt hazard mitigation measures required for participation in the program. He also indicated that without direct and compelling economic incentives for loss reduction, the current opposition in most communities to the adoption of earthquake hazard mitigation measures will continue to prevail. The Chairman of the Expert Review Committee also felt that H.R. 4480 (which contains no mandatory hazard mitigation) will not save a single life nor prevent the loss of a single dollar in property damage, but may provide a safety net for insurers.

Panel 4 consisted of representatives from the engineering, architectural and state emergency managers. The American Institute of Architects' (AIA) representative said that AIA believed strongly that federal earthquake insurance should be conditioned upon loss reduction activities, with precaution taken to ensure that undue economic burdens do not fall on those unable to sustain them. The representative for the Earthquake Engineering Research Institute (EERI), expressed support for H.R. 4915 because the bill contains a strong mitigation element. The EERI representative expressed concern with H.R. 4915 regarding how rapidly and to what degree communities will be required to develop and begin enforcing detailed mitigation plans before they can qualify to participate in a national earthquake insurance program. A state code official felt

that because of a variety of political concerns and pressures, compounded by the lack of awareness, and understanding of the earthquake threat in many parts of the country, it is unlikely that voluntary implementation will take place in the near future without incentives such as those included in H.R. 4915. A representative for the National Emergency Management Association, felt that H.R. 4915 presented the best opportunity to make mitigation national and lessen the enormous economic losses that result in a major earthquake. Committee Print Number 101–141.

3.7(ll)—Increasing U.S. Scientific Manpower

Background

The U.S. has traditionally relied upon immigrants for a significant portion of its scientists and engineers. However, the basic U.S. immigration law, the Immigration and Naturalization Act of 1952, as amended, is not geared toward attracting scientists and engineers, but is built around the principle of family reunification. Its preference system exempts immediate relatives and refugees from the worldwide ceiling of 270,000 immigrants and the per-country limit of 20,000. Under current law, only 10 percent of the worldwide ceiling is allocated for members of the professions or persons of exceptional ability in the arts and sciences (third preference) and 10 percent are allocated for skilled and unskilled workers in short supply (sixth perference). Thus 54,000 visas, per year, are available under the third and sixth preferences. In addition, entry under the third and sixth preferences requires a job offer and labor certification from the Department of Labor.

In FY 1988, the last year for which figures are available, slightly more than 10,000 scientists and engineers, including those who came because of the immediate family exemption, were given permanent, immigrant status. For FY 1987, the figure was approximately 11,000. Total immigration figures for FY 1987 and FY 1988 were approximately 600,000 per year. Thus, the percentages of immigrant scientists and engineers is minuscule when compared to all immigrants admitted for permanent alien status. It should also be noted that in FY 1987, 60,000 foreign scientists and engineers came here as non-immigrant temporary workers, out of a total of 12.3 million legal non-immigrant admissions and that many foreign graduate students in science and engineering are here on temporary visas.

Summary of hearing

On July 31, 1990, the Subcommittee on Science, Research and Technology held a hearing on the impact of U.S. immigration laws on the ability of U.S. industry and academia to hire scientists and engineers who are foreign nationals. The emigration of foreign-born, naturalized U.S. scientific personnel and American private organizations' efforts to retrain recent Soviet refugee scientists were also discussed during the hearing. Witness at the hearing represented the National Science Foundation, the National Institutes of Health, the National Academy of Sciences, the National Academy of Engineering, academia, private industry, and a private orga-

nization helping retrain refugee scientists, as well as a recent Latvian refugee biochemist.

The general consensus that emerged from the hearing was that current U.S. immigration law, for both permanent and non-permanent immigrants, does not promote the immigration of highly skilled scientific personnel, and that existing U.S. immigration law should be revised to facilitate easy entry of foreign scientists and engineers into the U.S. Many of the witnesses also discussed the impact of H.R. 4300, the Family Unity and Employment Opportunity Immigration Act of 1990, on the nation's scientific manpower needs, and proposed revisions for that legislation, currently in conference with the Senate.

Several witnesses also discussed trends in the emigration of foreign-born, naturalized scientific personnel, suggesting the reasons for the repatriation of these individuals. Finally, the representative from the private organization helping to retrain refugee scientists explained methods for helping clients find suitable employment. One of those clients, a biochemist, who has been in the U.S. for four months, related his experiences in trying to locate employment commensurate with his training and skills. Committee Print Number 101-147.

3.7(mm)—Status of Machine (MT) Translation Technology

Background

Machine translation (MT) is defined by the technical community as translation generated by computer, with or without human intervention. Machine-aided translation (MAT) refers to human-initiated translation in which the computer is enlisted as an aid, mainly in the form of word processing, grammar checks, and terminology banks. Developmental work on technology to assist in the translation of materials from one language to another has been under way for more than thirty years. Numerous research projects were in place at universities in the U.S. in the 1950s and 1960s. These efforts were often financially supported by the U.S. Government, especially the Defense Department, which wished to expedite the translation of Russian technical material. However, the publication of a report by the Automatic Language Processing Advisory Committee (ALPAC) of the National Academy of Sciences/National Research Council in 1966, recommending the termination of governmental support of MT projects, all but ended research in this area.

The worldwide information explosion, advances in computer software and hardware, the expansion of international trade, and the tremendous recent achievements in science and technology have sparked a renaissance of interest in machine translation technology in recent years.

The Subcommittee on Science, Research and Technology has had a long-standing interest in the issue of U.S. access to foreign scientific and technical information, and was instrumental in the passage of the Japanese Technical Literature Act of 1986 (P.L. 99-382). This legislation directs the Department of Commerce to establish an office to monitor Japanese scientific and technical activities, acquire and translate Japanese technical reports, and coordinate

with other agencies and departments of the Federal Government to avoid duplication of efforts. The Subcommittee has continued oversight of the Act through the annual authorization of the Department of Commerce's technology programs and by holding hearings on related topics. It last considered machine translation in hearings in 1985.

Summary of Hearing

On September 11, 1990 the Subcommittee on Science, Research and Technology held hearings on the Status of Machine Translation Technology. Witnesses included: the Director of the Office of Japan Affairs at the National Research Council, who presented a brief summary of a Symposium of Japanese to English Machine Translation held at the National Academy of Sciences in December 1989; the Chief of Translation of the Pan American Health Organization; a panel of Federal Government agency representatives, who discussed both ongoing and future activities in their organizations, including a special study being launched by the U.S. Task Force on Access to Scientific and Technical Information to evaluate the status of Japanese research and development in machine translation technology; and a panel of expert witnesses who presented an academic research and business point of view of machine translation technology.

All the witnesses agreed that progress was being made in machine translation and machine-aided translation technology, but that more research was needed in this field. They also agreed that the Federal Government has a role in coordination and in support of the effort. Congressman Walgren stressed the need for a national plan for the development of machine translation technology, and requested that a follow-up hearing be held to receive the findings of the 1990 review, in Japan, of the status of Japanese research and development in machine translation technology by the U.S. Task Force on Access to Scientific and Technical Information. Committee Publication Number 101-153.

3.7(nn)—Technology Corporation of America Act of 1990 (H.R. 4715)

Background

On May 2, 1990, Congressman Mel Levine introduced H.R. 4715, the Technology Corporation of America Act of 1990, to provide for the formation of an industry-run government-chartered, nonprofit corporation to fund research, development, and manufacturing activities in strategic technologies. The bill seeks to offset the advantages of lower cost of capital, as well as vertical integration and focused technology targeting, enjoyed by many of our foreign competitors. The major role of the Technology Corporation of America (TCA) would be to broker low cost capital for U.S. high technology firms, by providing grants, which would be matched by private capital. Other possible roles envisioned for TCA include: supporting private sector initiated consortia (both research and development and joint manufacturing partnerships); encouraging cooperative ventures between industry, government, and universities; devising ways to counter lack of foreign anti-trust restrictions; recommending new Federal Government policies to revitalize the U.S. indus-

trial base; helping to bridge the gap between the Nation's laboratories and commercial exploitation; and devising ways to respond to the advantages of vertical integration enjoyed by many foreign firms.

Summary of Hearing

On September 12, 1990 the Subcommittee on Science, Research and Technology held hearings on H.R. 4715. The President of SJS, Inc., testified that, in his work as a business consultant, he noted that more and more American companies, at the cutting edge of a given technology, were forced to sell to foreign competitors because of lack of capital. He recommended that in order to curb this erosion, the U.S. must match the approximately $6 to $8 billion a year public funding effort which the Europeans are devoting to developing new technology. The Chairman of Prometrix Corporation, stated that the most critical funding for new technology development comes from revenue from end-use product markets. Research and development costs in cutting edge technologies such as semiconductors are so expensive that they can only be supported by the massive revenues generated from the sales of end-use consumer electronic products. If control of the end-use markets is lost, it is only a matter of time before related cutting edge technologies are lost. An attorney specializing in finance indicated that for a federally-sponsored entity to be most effective market imperfections, such as a law or regulation which prevent efficient allocation of capital, should be corrected. He further recommended that an entity such as TCA should be either publicly or privately owned, and not an amalgam of both; and that if a TCA was established it should be set up as a private entity to receive federally appropriated funds. A consultant in technology management noted that there is not now a consensus, either within the business community or within the Administration, to support a wider federal role in civilian technology development. Unlike Japan and the European Community, the U.S. has not yet made a national decision to compete, and so we have yet to make a national commitment to the massive capital investment needed to develop the most advanced technologies. He also observed that a top priority in this area is that the Advanced Technology Program in the Department of Commerce be established on a secure footing; and that until a consensus within industry exists to support further federal involvement, alternative funding mechanisms such as TCA are not viable. Committee Publication Number 101-152

3.7(oo)—Oversight Hearing on the National Fire Academy and Research on Firesafety Equipment for Hearing-Impaired Individuals

Background

The Committee has been increasingly concerned about the effectiveness of the National Fire Academy (NFA). NFA, created by the National Fire Prevention and Control Act of 1974 (P.L. 93-498), provides advanced training to firefighters throughout the nation both at its campus in Emittsburg, and through "train the trainer" and field programs at other locations. The management of NFA, the quality of its programs and the attitude of the parent agency,

the Federal Emergency Management Agency (FEMA), have been issues for many years.

NFA has been without a permanent superintendent for two years. The last acting superintendent and deputy superintendent left NFA earlier in 1990 after being accused of favoritism in contracting. Many of the courses—perhaps a majority—are taught by adjunct faculty. A report, "Review of the Procurement Process for Adjunct Faculty" (#-21-90), by the FEMA Office of Inspector General was released in September 1990. The report questioned whether the procedures used to hire adjunct faculty were in accordance with federal contracting regulations and recommended significant changes.

In previous years, FEMA has ignored repeated Congressional requests to place NFA under the U.S. Fire Administration (USFA), and has instead required NFA to report to the FEMA Office of Training. A disproportionate share of funds authorized for NFA have been used to pay staff of the Office of Training and of the National Emergency Training Center site administration unit, which maintains the campus shared by NFA and the Emergency Management Institute.

The Committee also has had a long-standing interest in research to develop fire safety equipment for hearing-impaired individuals. The Federal Fire Prevention and Control Act of 1974, Authorization and Amendment (P.L. 100-476) required the USFA to prepare a report on the status of such equipment. The subsequent USFA report, "Fire Alarm and Detection Systems for the Hearing-Impaired," found that more research and testing was needed to develop emergency alerting that can wake hearing-impaired individuals. The most common devices now available, strobe lights, will not awaken all individuals in all circumstances.

In March 1988, the Soroptimist International of Frederick County, MD, with funding from USFA, requested Underwriters Laboratories (UL) to evaluate alternative signaling systems that would alert hearing-impaired and handicapped people to fires and other emergency conditions. In response, UL, the Soroptimist International, the National Electrical Manufacturers Association and the USFA launched a research project to develop safety and performance requirements for smoke detectors, fire alarm controls units and other devices intended for use by hearing-impaired individuals. The project will also establish guidelines for use and installation of the devices.

Summary of Hearing

On September 13, 1990 the Subcommittee on Science, Research and Technology held an oversight hearing to review the status of the NFA and the status of research on firesafety equipment for hearing-impaired individuals.

The first panel provided an update on the status of the Underwriters Laboratories project for the hearing-impaired. Witnesses included representatives from the Office of the State Fire Marshal of Maryland, the Soroptimist International of Frederick County, MD; and a representative from the Engineering-Fire Protection Division, Underwriters Laboratories Inc., Northbrook, IL.

The second panel provided the views of three members of the Board of Visitors for the NFA on the status of the NFA. The Board concurred in the concerns the Subcommittee raised about the quality of the NFA's programs, the management of the NFA and the attitude of FEMA regarding the NFA. The Board strongly recommended that the NFA be rejoined with the USFA, giving the USFA full control over the fire funds.

The report of the FEMA Office of Inspector General on the hiring of adjunct faculty was released at the hearing. The report found that adjunct faculty performed services under the supervision and control of government employees; and those services may have been obtained and used in violation of civil service laws. The report also found that the process used to obtain adjunct faculty was not subject to full and open competition. The Acting Director, Office of Training, FEMA disagreed with the Inspector General's report and indicated that NFA does not "supervise" adjunct faculty, but monitors classroom activities, and noted that FEMA must balance the need for full and open competition with the requirement to insure that bidders are fully qualified. Committee Publication Number 101-157.

3.8—SUBCOMMITTEE ON TRANSPORTATION, AVIATION, AND MATERIALS

3.8(a)—Bureau of Mines

Background

The Bureau of Mines, created in 1910, is responsible for ensuring that the United States has an adequate and dependable supply of minerals and materials to meet its strategic and economic needs. Congress through various legislative mandates has enlarged this basic mission to include health and safety in minerals technology; conservation of helium; R&D for critical and strategic minerals and materials; minerals information and analysis; international minerals assessment; analysis of stockpile requirements; and mineral land use assessments.

Summary of Hearing

The Subcommittee on Transportation, Aviation and Materials conducted a hearing on March 22, 1989, to review the proposed FY 1990 budget for the Department of the Interior's Bureau of Mines, as well as to consider long-term research and policy goals of the Bureau. Discussions were held regarding the budget trend, which has been established through the years as one of severe cuts to the Bureau—while little or no cuts were sustained by the Department as a whole. The Bureau requested for FY 1990, $141.6 million ($19.9 million or 12.4% less than the FY 1989 estimate). Committee Publication Number 101-4.

3.8(b)—Implementation of the Computer Security Act (Jointly With Subcommittee on Science, Research and Technology)

Background

The Computer Security Act of 1987 was signed by the President and became Public Law 101-235 on January 8, 1988.

The Computer Security Act of 1987 directs the National Institute of Standards and Technology (NIST) to establish a computer standards program for federal computer systems; requires NIST to draw upon computer system technical security guidelines developed by the National Security Agency (NSA) regarding protecting sensitive information; establishes a Computer System Security and Privacy Advisory Board within the Department of Commerce; requires each agency to provide mandatory periodic training in computer security, under guidelines developed by NIST, for all employees involved with the management, use, or operation of computer systems; requires each agency with a federal computer system to establish a plan for the security and privacy of sensitive information; and requires the submission of such plans to NIST and NSA for advice and comment.

Summary of Hearing

The Subcommittee on Transportation, Aviation and Materials conducted a hearing March 21, 1989 to receive reports on what progress has been made in implementing the Computer Security Act by various federal agencies since this Subcommittee's hearing on the Act on September 22, 1988 and discuss agency plans for continued implementation of the Act. Witnesses from Office of Management and Budget, the National Institute of Standards and Technology, the Computer System Security and Privacy Advisory Board, the National Security Agency, the Office of Personnel Management, and the General Services Administration will testify. In addition, the General Accounting Office will present the results of its survey of the federal agency implementation of the Computer Security Act. Committee Publication Number 101-18.

3.8(c)—Oversight on the FAA's Fiscal Year 1990 R&D Program

Background

The total budget request for the Federal Aviation Administration (FAA) for FY 1990 is $7.743 billion which is $1.153 billion (17%) more than the FY 1989 appropriation of $6.590 billion. The Operations component of the budget ($3.923 billion) is an increase of $478 million (12%) over FY 1989, and reflects increased leased communications costs; additional controller, inspector, and security personnel; costs associated with the random drug testing program; and recruitment/retention pay demonstrations. The Facilities and Equipment (F&E) component ($1.955 billion) is an increase of $571 million (41%) over FY 1989, and reflects upgrade terminal air traffic control (ATC) automation capabilities; provide improved radar systems, airport traffic control towers, and enroute ATC and navigation facilities. The Research, Engineering, and Development (RE&D) component ($.165 billion) is an increase of $5 million (3%) over FY 1989, and pays for finding out how to make the system better, both in the near and long term. The Grant-In-Aid For Airports component ($1.350 billion) is for the planning and development of the Nation's airports.

Of the total budget request of $7.743 billion, the Airport and Airway Trust Fund portion is $5.063 billion (65%), with the re-

maining portion of $2.689 billion (35%) coming from the General Fund.

Summary of Hearing

The Subcommittee on Transportation, Aviation and Materials conducted a two-day hearing April 11 and 12, 1989 to examine the FAA R&D budget. In addition to the general budget review, the TAM subcommittee began monitoring the FAA compliance with the Aviation Safety Research Act of 1988 (P.L 100-591) which mandates FAA to allocate at least 15% of the appropriated R&D budget to long-term research and identifies specific research areas and processes that should be an integral part of the over-all FAA R&D program. Committee Publication 101-20.

3.8(d)—Technology Transfer Implications of the U.S. and Japan FSX Agreement (Jointly With Subcommittee on Investigations and Oversight and the Subcommittee on International Scientific Cooperation)

Background

The United States and Japan have agreed to co-develop the next generation Japanese fighter aircraft ("Fighter Support-Experimental", or FS-X), which will be based on the F-16 produced by General Dynamics. Critics of the arrangement argue that the deal will give Japan the technology and know-how to compete much more effectively with the U.S. in sales of civil and military aircraft, one of the few remaining high-technology industries in which the U.S. shows a positive trade balance ($16 billion in 1987).

Summary of Hearing

The Subcommittee on Transportation, Aviation and Materials (jointly with the Subcommittee on Investigations and Oversight, and the Subcommittee on International Scientific Cooperation) held a hearing on April 6, 1989 to examine the following issues: what level of technology and know-how will be transferred between the U.S. and Japan under the FS-X agreement; who will benefit in the U.S.—General Dynamics, or the entire U.S. aerospace industry; specifically, what will the U.S. gain technologically in advanced materials, avionics, computer codes, aircraft design, manufacturing technology, and systems integration, what will Japan gain; how applicable will the experience that Japan gains be to its commercial aircraft industry, will the FS-X agreement enable Japan to erode some of the U.S. lead in civil and military aviation? Committee Publication Number 101-62.

3.8(e)—Advanced Vehicle Highway Technology and Human Factors

Background

Two of the major areas of concern regarding the nation's transportation system is traffic congestion and automobile accidents.

Currently, traffic growth on urban freeways nationwide is growing from six to seven percent annually. Motorist delays are growing even faster. Annual vehicle-hours of delay are increasing at least two to four times the annual traffic growth. Annual conges-

tion delay increases of 27 percent have been reported. About 40 percent of urban congestion is chronic and the other 60 percent is incident related.

Automobile accidents involve a heavy cost to society through deaths, injuries and property damage. In any given year, more than 40,000 persons are killed, nearly three million individuals are injured, more than four million hospital days are accumulated, and more than 15 million days of work are lost. The cost to society has been estimated at roughly $57 billion per year, an estimate which includes only tangible costs, such as medical expenses, lost earnings, and property damage.

The costs of traffic congestion and automobile accidents and deaths have been a source of concern to society, both for the federal government and the automobile industry. Because of these concerns and the associated costs, the federal government and the domestic automobile industry have been working together to develop technology that will ameliorate these conditions. One development is the Automatic Vehicle Control (AVC) system. It would replace a number of driver functions with a sophisticated monitoring and control panel. It is seen as affecting traffic congestion by providing advanced information to the driver on road and traffic conditions and reducing the likelihood of automobile accidents created by driver error or impairment.

Summary of Hearing

The Subcommittee on Transportation, Aviation and Materials conducted a hearing on June 7, 1989 to examine the current traffic situation and what will happen if these trends are not abated. Secondly, the hearing will examine the state-of-the-art available-technology and how this technology can contribute to alleviating traffic congestion and automobile accidents. The hearing will also examine other elements of advanced vehicle-highway technology such as deteriorating highway and bridge infrastructure and human factors research. Committee Publication Number 101-33.

3.8(f)—Research Results of the Speed Limit Increase

Background

In December 1982, with the enactment of the Surface Transportation Assistance Act, the Congress mandated that the National Academy of Science (NAS) study the effects of the 55-MPH speed limit. The purpose of the study was to investigate the benefits, both human and economic, of lowered speed limits, with particular attention to savings to the taxpayer, and to investigate whether the laws of each state constitute a substantial deterrent to violations of the maximum speed limit on public highways within each state.

The NAS study, completed in 1984, found that the 55-MPH national speed limit resulted in fewer highway fatalities, and savings in energy of the nation's highway fuel consumption. Because of the reduction in highway fatalities and energy savings, the NAS panel recommended that the 55-MPH speed limit be retained on almost all of the nation's interstate system and left the question of speed limit for rural interstate highways to Congress.

In 1987, the Surface Transportation and Uniform Relocation Act allowed states to raise the speed limit on rural interstate highways to 65-MPH. Since then, statistics compiled by the National Highway Transportation Safety Administration (NHTSA) and the Insurance Institute of Highway Safety have shown a sharp increase in traffic fatalities on highways in the states which have raised the speed limit to 65 MPH.

Summary of Hearing

The Subcommittee on Transportation, Aviation and Materials conducted a hearing on July 26, 1989 to review these research findings and the impact the speed limit increase has had on highway and vehicle safety. The hearing compared traffic fatalities in states with increased speed limits with those that maintained the 55-MPH limit. The hearing examined issues relating to fuel consumption and finally ascertained what further research and development initiatives might be necessary to ensure vehicle/passenger safety. Committee Publication Number 101-54.

3.8(g)—Potomac River Air Cushion Transportation System

Background

Traffic in most metropolitan areas is a mess. Today, over 61 percent of urban travel occurs under congested conditions. There are two billion vehicle hours of delays per year attributed to congestion at an estimated $73 billion loss to the nation's economy. If present trends continue unchecked, it will get even worse. The Federal Highway Administration forecasts that by the year 2000, there will be 50 percent more cars on the road than there are today.

Several approaches to reducing traffic congestion and costly delays should be considered, especially in major metropolitan areas with significant waterways, such as Washington, D.C., Chicago, Illinois, Los Angeles and San Francisco, California. One such alternative to automobile transportation would be the development and deployment of a hovercraft transport system or "air cushion vehicle" (ACV) transportation system to alleviate traffic congestion.

Summary of Hearing

The Subcommittee on Transportation, Aviation and Materials conducted a hearing on September 13, 1989 to examine the economic feasibility of using air cushion vehicles to transport passengers in the Washington, D.C. area, as well as other U.S. locations with available waterway systems as a means of reducing people movement problems. Additionally, the hearing examined other issues in relation to using efficient state-of-the-art marine technology including demographics, costs, and competition. Committee Publication Number 101-59.

3.8(h)—Oversight of P.L. 100-697, the National Superconductivity and Competitiveness Act of 1988

Background

High temperature superconductivity represents one of this century's great scientific achievements, offering an opportunity for

major advancements in such technologies as electronics, transportation and energy conversion, transportation and storage. Despite significant advances since the discovery of these unique materials just over two years ago, much still remains to be done in terms of the basic science of these materials, as well as the development of appropriate technologies either of a strategic or commercially applicable nature. Recognizing the need for a long-term, national commitment for research and development of these materials and their related technologies, the 100th Congress passed the National Superconductivity and Competitiveness Act of 1988 (P.L. 100-697), calling for a five-year National Action Plan. The Plan was to be established by the Director of the White House Officer of Science and Technology Policy (OSTP) in coordination with the National Critical Materials Council and the National Commission on Superconductivity and was to specifically include goals and priorities for R&D, agency responsibility for conducting such research, recommendations for proposed funding, and proposals for the participation of the private sector in planning and implementation of the Plan. The Plan was to have been submitted to Congress by August 19th of this year.

Summary of Hearing

The Subcommittee on Transportation, Aviation and Materials conducted a hearing on October 31, 1989 to provide oversight of the implementation of P.L. 100-697 with particular attention to the Action Plan expected to be submitted by the White House prior to the hearing. Since the President's Science Advisor did not appear at the hearing, these questions could not be addressed. In addition questions were to be directed in the role of the Commission and Council, neither of which have been officially involved in establishing the Plan as originally envisioned by Congress. Representatives of the private sector testified and offered comments on the proposed Plan. Committee Publication Number 101-85.

3.8(i)—Oversight of SEMATECH (jointly With the Subcommittee on Science, Research and Technology)

Background

In recent years, the U.S. semiconductor industry has slipped from its dominant position in world markets in key microelectronic technologies. In 1975, the U.S. market share for dynamic random access memory chips (DRAMs) exceeded 90 percent, and the Japanese share was well below ten percent. By 1986, however, Japanese semiconductor firms controlled more than 90 percent of this mass-commodity market, and the share held by remaining U.S. companies that continue to produce DRAMs plummeted to about 5 percent.

During this period of rapid foreign growth, every major industrial nation outside the United States sought to enhance the commercial competitiveness of its semiconductor industry through large-scale, government-supported research and development projects. Such projects are widely credited with enabling Japan to achieve technological parity with the United States, and in some cases to move ahead of the U.S.

Efforts were begun in the 100th Congress to reverse this trend and revitalize the American industry, most notably with the creation of SEMATECH and the National Advisory Committee on Semiconductors (NACS).

SEMATECH (an acronym for Semiconductor Manufacturing Technology) was established in 1988 and is a consortium of 14 American semiconductor manufacturers working with the U.S. Department of Defense (DOD) and American universities and research organizations to sponsor and conduct research aimed at assuring global leadership by the U.S. in semiconductor manufacturing technology. The consortium is jointly funded at an annual level of $200 million, evenly divided between the government and the private sector; DOD provided $100 million in FY 1988 and 1989 with the Defense Advanced Research Project Agency (DARPA) having management oversight responsibilities. Identical amounts have been requested by the Department of Defense for fiscal year 1990, 1991, and 1992.

NACS was established by the Omnibus Trade Act of 1988 with membership comprised of both industry and government representatives charged with the responsibility for developing a national semiconductor strategy including research and development. Implementation of this strategy is to assure the continued competitiveness of the United States in semiconductor technology by identifying weak links and promising new technologies and making recommendations to the Congress for improvements. NASC is to submit annual reports to the White House and the Congress at the end of each year.

Summary of Hearing

The Subcommittee on Transportation, Aviation and Materials conducted a hearing on November 8, 1989 to examine the following issues: (1) the short and long term goals of SEMATECH, including research and contingent strategies to handle potential changes in the semiconductor equipment manufacturer's sector of the industry; (2) the near and long term research needs of the industry and government; (3) the effect of the health of individual components of the domestic electronics industry including consumer electronics, chip makers, and production equipment manufacturers on other segments of the industry; (4) the kinds of information industry is giving the NACS to aid it in the development of its plans; (5) the time frame necessary to implement successful strategies to aid in the revitalization of the semiconductor industry; and (6) options, including research, for government encouragement of the industry. Committee Publication Number 101-81.

3.8(j)—DC-10 Engine Failure and Related FAA R&D Needs

Background

The recent DC-10 crash in Sioux City, Iowa resulted from complete loss of the aircraft's hydraulic system, caused by the explosive failure of the aft engine. Experts believe that the engine failed when a titanium fan disk, produced in the early 1970's, suddenly gave way catastrophically. Recent Senate testimony revealed that the titanium used to make the disk was produced using a two-step,

vacuum melt process, considering inadequate to sufficiently eliminate potential defects. The industry currently uses a three-step vacuum melt process. As a result of the preliminary investigation into the cause of the accident, FAA issued an Airworthiness Directive to examine extensively some 220 engines now in service which have titanium disks that were produced using the two-step process. Discussions with FAA, GE (the engine manufacturer), McDonnell-Douglas and others suggest that the problem may be more extensive than the 220 GE engines. Pratt & Whitney and Rolls Royce also produced engines using titanium provided by the same supplier.

Summary of Hearing

The Subcommittee on Transportation, Aviation and Materials conducted a hearing on November 9, 1989 to examine the issue of DC-10 engine failure which resulted in the July 19, 1989 crash of United Flight 232 in Sioux City, Iowa. The hearing focused on related FAA R&D needs (Rep. Tom Lewis introduced related legislation—H.R. 3555 on October 31, 1989), the scientific data involved in determining the cause of the engine failure, the potential for similar failures in wide body aircraft and what research steps FAA and industry may need to take in order to avoid such failures in the future.

The hearing was intended to examine the following issues and questions: (1) when was the decision made to change to an additional processing step, and why were not steps taken to re-evaluate potential defects in the earlier engines; (2) should FAA have monitored the earlier engines more closely in light of the changes in the manufacturing process; should there have been additional inspection requirements; (3) what assurances do we have that the proposed inspection will detect the defects that might be in the 220 engines; is the technology sufficient to the task; (4) how extensive is the problem in other engines; (5) what are the long term implications of this problem for both R&D and inspection/certification procedures? Committee Publication Number 101-92.

3.8(k)—Federal Research and Development Initiatives in the Maritime Industry

Background

The Federal government has encouraged and subsidized a domestic merchant fleet and a domestic merchant shipbuilding industry since the earliest years of the nation.

During the last decade, much of the federal support has been substantially reduced, especially funds for research and development into innovative shipping and shipbuilding technologies. At the same time, the U.S. generally has lagged behind foreign competitors in applying technological advances to much of the U.S. flagged-fleet and to the technology of constructing ships. To achieve a competitive position in world shipping and shipbuilding, it is important for the U.S. to regain technological preeminence in these areas.

Summary of Hearing

The Subcommittee on Transportation, Aviation and Materials conducted a field hearing on January 29, 1990 at Long Beach, California to examine the role of research and development in stimulating technological innovation in the shipping and shipbuilding industries. Several studies suggest that there is a need for a more effective research and development program, and that Congress could help establish a more specific Federal role in maritime research. The hearing would help identify research and development objectives for an overall maritime policy; determine what U.S. industry can do to better itself and formulate incentives for industry research and development; and stimulate coordination and transfer to technology from within the industry, military, foreign, and other sources. Committee Publication Number 101-102.

3.8(l)—Oversight of P.L. 100-697, the National Superconductivity Competitiveness Act of 1988

Background

High temperature superconductivity represents one of this century's great scientific achievements, offering an opportunity for major advancements in such technologies as electronics, transportation and energy conversion, transportation and storage. Recognizing the need for a long-term, national commitment for research and development of these materials and their related technologies, the 100th Congress passed the National Superconductivity and Competitiveness Act of 1988 (P.L. 100-697), calling for a five-year National Action Plan. The plan was to be established by the Director of the White House Office of Science and Technology Policy (OSTP) in coordination with the National Critical Materials Council and the National Commission on Superconductivity. Originally due for submission in August 1989, the Plan was submitted to Congress in December of last year. A hearing was held in October in which outside views on superconductivity was considered.

SUMMARY OF HEARING

The Subcommittee on Transportation, Aviation and Materials conducted a hearing on February 21, 1990, to provide oversight of the implementation of P.L. 100-697 with particular attention to the Action Plan and budget proposal for FY 1991. In addition to the focus on the Plan itself, questions were directed to the role of the Commission and Council. Committee Publication Number 101-100.

3.8(m)—Airport Surface Safety Research

Background

On January 18, 1990 a runway incursion occurred at the Atlanta Hartsfield International Airport between a landing Eastern Airlines B-727 and a twin engine aircraft that had landed first without runway clearance. The air traffic controller stated he had been distracted by other traffic and a communication problem with an earlier landing aircraft.

SUMMARY OF HEARING

The Subcommittee on Transportation, Aviation and Materials conducted a hearing on March 6, 1990, to establish the nature, scope and severity of the runway incursion problem; identify the available runway incursion alerting technology and determine its technical maturity and examine the FAA's approach to the evaluation and implementation of incursion alerting technology into the nation's airports. Committee Publication Number 101-93.

3.8(n)—Department of Energy FY 1991 Authorization (Transportation Programs)

Background

The budget request for transportation programs for FY'91 is $56,000,000, which is $8,359,000, or 13.8 percent less than was appropriated for FY'90 of $64,959,000.

Since transportation uses more petroleum-derived fuel, 63 percent, than all other U.S. energy consumer sectors combined, it is imperative that the DOE Transportation Conservation Program continue to perform its research and development on vehicles and engines that will increase the fuel efficiency of the transportation system and allow a switch from petroleum to electricity and alternative fuels.

Summary of Hearing

The Subcommittee on Transportation, Aviation and Materials conducted a hearing on March 27, 1990, to examine the Department of Energy Transportation Program cuts under the Subcommittee's jurisdiction. The hearing focused on why the DOE felt the reductions were justified and invited others from industry to comment on the proposed budget and offer their views as to the solutions to the clean air and fossil-fuel-dependency problems. Committee Publication Number 101-116.

3.8(o)—Technology for the Transportation of Oil

Background

Recent accidents have focused on the international attention on the hazards of transporting oil via large tanker ships. Last year's Alaska spill was only the most visible of a rash of accidents involving tankers and port facilities. Legislation requiring all tankers carrying oil or hazardous substances in U.S. waters be equipped with double bottom technology seven years after enactment and double hulls fifteen years after enactment has been introduced.

The Subcommittee on transportation, Aviation and Materials conducted a hearing on May 24, 1990, to examine the magnitude of the oil spill problem, the environmental consequences and the economic side effects; review current technologies for transporting oil and for oil spill clean-up (double bottom hulls, vacuum pumps, containment rooms, oil skimmers, inert gas processes etc.); and consider research needs and opportunities such as the use of tilt rotor technology to deploy oil containment booms. It further encourages the need for implementing advanced technology to prevent oil

spills and via legislation and the need for greater federal effort to develop advanced marine technology for transporting oil and hazardous cargo. Committee Publication Number 101-142.

3.8(p)—Oversight of the National Critical Materials Council

Background

The primary purpose of the National Critical Materials Council is to provide a focal point within the Federal government for critical national materials issues and concerns with far-reaching strategic, as well as economic importance. Among other duties, the Council has been mandated to establish a national federal program plan to help direct the nation's efforts in this area. Past Administration efforts have opposed full implementation of the public law and have tried to terminate the Council and relegate its responsibilities to other entities, despite Congressional directions to the contrary. In 1988 as part of the Omnibus Trade Act of 1988, the Council was extended an additional two years and the hiring of five additional technical staff to the Council was required. In addition, the Council was assigned further responsibilities within the Trade Act, as well as in a separate measure designed to promote superconductivity and national competitiveness (P.L. 100-697).

Summary of Hearing

The Subcommittee on Transportation, Aviation and Materials held a hearing on June 26, 1990, to examine the progress the National Critical Materials Council has made in developing a national approach to 21st century materials needs. Specifically, to examine whether the current materials research programs are adequate to the needs of our nation, how important advanced materials are to U.S. competitiveness, and the appropriate Federal role in accelerating the development and use of advanced materials. Committee Publication Number 101-146.

3.8(q)—Implementation of Computer Security Act of 1987 (P.L. 100-235)

Background

The Computer Security Act of 1987 was signed by the President and became Public Law 100-235 on January 8, 1988. At the time of the Act, there was widespread concern about the vulnerability of government computers and data bases to fraud from insiders and destruction or compromising of federal records by outsiders. The Administration's solution had been to vest broad computer security powers in the Department of Defense's National Security Agency. A number of Members of Congress and business leaders from a number of industries expressed concern that the policy considerations of those protecting national security and those protecting the confidentiality and integrity of unclassified government records were not always identical.

Therefore, in P.L. 100-235, the National Institute of Standards and Technology (NIST), a civilian agency, is given the lead in providing security for unclassified information in government computer systems and the National Security Agency is given a major sup-

porting role. NIST is expected to establish unclassified computer security standards, review computer security plans prepared by government agencies, and develop guidelines for government computer security training programs drawing, where appropriate in each instance, on the NSA for assistance, advice, and comment.

Summary of Hearing

The Subcommittee on Transportation, Aviation and Materials held a hearing on July 10, 1990 to review the current status of implementation of the computer security program by the National Institute of Standards and Technology (NIST)—to determine whether NIST is making satisfactory progress towards development of each of the standards necessary for secure computers, networks, and data bases; to determine whether adequate computer security training programs are being put in place; and to determine what resources are needed by NIST and other agencies to carry out their responsibilities. Committee Publication Number 101–137.

3.8(r)—Civilian Applications for Tilt Rotor

Background

For many years NASA and the Army experimented with a technology that would allow aircraft to land and take off like a helicopter yet cruise like a fixed wing aircraft. These experiments culminated in the XV–15 Tiltrotor and included the possibility of rapid downtown-to-downtown commuter service.

Subsequently, the Department of Defense (DOD) began a program to develop a military application, known as the V–22 for use by the Marines. However, the Administration has recently determined it will not proceed with the production of the V–22 Tiltrotor for the Department of Defense which has caused many aviation experts to be concerned about the aircraft's future and the potential loss of benefits to civil transportation.

Summary of Hearing

The Subcommittee on Transportation, Aviation and Materials held a hearing on June 28, 1990 to examine the potential transportation benefits that many experts believe the aircraft can provide. The second issue is the degree to which additional research is required to achieve an operationally viable civil tiltrotor aircraft. The third issue is the degree to which the government is currently preparing for the introduction of tiltrotor aircraft and the degree to which additional planning and analysis is required. Committee Publication Number 101–155.

3.8(s)—Vessel Traffic Control

Background

Traffic in America's ports is on the rise. At the same time the amount of oil spilled by oil tankers into our harbors has surged.

Traffic in the New York Harbor is heavy due to incoming vessels, intraport vessel movements, pleasure boats, and commuter ferries. Every day 13 million gallons of oil are carried through the harbor. Tankers must travel through areas notorious for ground-

ings and frequent collisions. Treacherous conditions and congested waterways have resulted in the release of more than 700,000 gallons into the harbor this year.

The Coast Guard currently operates Vessel Traffic Service (VTS) Systems in five harbors: San Francisco, Prince William Sound, Puget Sound, Houston and Louisiana. Congress recently authorized the revival of the New York Harbor VTS. VTS systems help prevent groundings and collisions by determining the position of vessels via radar and vessel radio reports. The Coast Guard also uses VTS systems to warn vessels of navigational hazards and the position of other ships.

Compliance with VTS advisories is not mandatory. Coast Guard officials can suggest that vessels remain in certain traffic lanes, however, they do not control their movements. Several of the ports, such as Prince William Sound, do not have VTS radars which cover the full port area.

Summary of Hearing

The Subcommittee on Transportation, Aviation and Materials held a field hearing in New York city on July 30, 1990 to examine the degree of congestion in our harbors, and the contribution of vessel traffic in oil spills; consider the adequacy of the Coast Guard Vessel Traffic System (VTS) for preventing groundings and collisions; and review current technologies for controlling vessel traffic (radars, LORAN-C, Global Positioning System, electronic vessel traffic systems and automatic electronic navigation aids) with a view toward legislation to enhance research and development of these systems. Committee Publication Number 101-160.

3.8(t)—Technology for Aircraft Noise Reduction

Background

Aircraft noise is an inflammatory issue to millions of people who live near a large airport. Responding to public outrage, the Government has taken a number of steps over the past twenty years. For example, NASA conducted extensive research in the 1970's, aimed at reducing aircraft noise at its source. Based on this work, the FAA promulgated regulations that require aircraft to meet increasingly strict noise standards. The regulations specify three levels or stages, corresponding to ever lower levels of noise. Currently, all aircraft in the U.S. must comply with stage II or better. Newly produced aircraft must comply with Stage III, the strictest level. The question as to mandatory phase out of older, Stage II aircraft remains open and highly charged.

When the standards were written, they reflected the best that technology could achieve without unacceptable economic hardship. Nevertheless, even stage III aircraft create levels of noise that are highly objectionable.

Summary of Hearing

The Subcommittee on Transportation, Aviation and Materials conducted a hearing on September 27, 1990 to examine research results since the noise regulations were written and to determine the proper level of research needed for further progress and whether it

may now be possible for the FAA to consider a Stage IV calling for lower noise levels. Witnesses were represented by a wide spectrum of the community; from those conducting the basic research, those manufacturing quieter aircraft engines, those operating aircraft and those who must live with the results.

APPENDIXES

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY PUBLICATIONS—101ST CONGRESS

HEARINGS

Date	Title	Number
Feb. 8, 9, 1989	Review of Major Space Program Studies and Recommendations Made to the Bush Transition Team.	1.
Apr. 11, 12, 1989	Creating the New Wealth: National Research and Development Funding in the 1990s.	2.
Feb. 23, 28, 1989	Overview of the Global Food and Population Situation.	3.
Mar. 22, 1989	Bureau of Mines FY 1990 Authorization/Oversight	4.
Mar. 15, 1989	The Soviet Armenian Earthquake Disaster: Could a Similar Disaster Happen in the U.S.?	5.
Mar. 2, 1989	The Hotel and Motel Fire Safety Act of 1989 (H.R. 94).	6.
Feb. 28; Mar. 1, 1989.	The Adequacy, Direction and Priorities for the American Science and Technology Effort.	7.
Apr. 18, 1989	Quality: Its Role in a Modern Competitive America	8.
Mar. 3, 1989	Tornado Forecasting and Severe Storm Warning	9.
Apr. 5, 1989	Counterfeit Bolts and Fasteners (H.R. 336)	10.
Apr. 7, 1989	Hurricane Weather Reconnaissance	11.
Mar. 22, 1989	High Definition Television (H.R. 1267 and H.R. 1516).	12.
Mar. 8, 1989	Superconducting Super Collider Project (H.R. 1195)	13.
May 4, 1989	Preservation of Print	14.
Apr. 5, 1989	Review of the Site Selection Process for the Superconducting Super Collider.	15.
Mar. 7, 8, 23, 1989	Department of Commerce Technology Programs (H.R. 3042).	16.
Apr. 26, 1989	1990 NASA Authorization Volume I (H.R. 1759, Aeronautics Programs).	17.
Mar. 21, 1989	Implementation of the Computer Security Act	18.
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Mar. 8, 1989	Fiscal Year 1990 Department of Energy Authorization (Transportation Programs).	23.
Feb. 22, 1989	Fiscal Year 1990 Department of Energy Authorization (Uranium Enrichment) Volume III.	24.
June 1, 1989	Implementation of the Federal Technology Transfer Act.	25.
Mar. 1, 1989	Fiscal Year 1990 Department of Energy Authorization (Nuclear Fission).	26.
Feb. 10, 1989	Examination of Federal and State Science and Technology Programs as Viewed from a Midwestern Perspective.	27.

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May 15, 1989	Future Application of Aquaculture and Marine Biotechnology to the Nation's Estuaries and Coastal Waters.	28.
May 18, 1989	Stimulating Investment in Research and Development.	29.
May 17, 1989	H.R. 1268, the National Biological Diversity Conservation and Environmental Research Act.	30.
Feb. 21, 1989	Fiscal Year 1990 Department of Energy Authorization (Magnetic Fusion Energy) Volume I.	31.
Feb. 2, 28; Mar. 1, 7, 9, 21, 23; Apr. 4, 5, 6, 11, 18, 1989.	1990 NASA Authorization (H.R. 1759) Volume II	32.
June 7, 1989	Advanced Vehicle-Highway Technology and Human Factors Research.	33.
Apr. 11, 1989	Science and Technology Education at Community Colleges.	34.
Feb. 22, 1989	Fiscal Year 1990 Department of Energy Authorization (Fossil Energy) Volume II.	35.
July 13, 1989	Corporate Restructuring and R&D	36.
Feb. 23, 1989	Fiscal Year 1990 Department of Energy Authorization (Basic Energy Science and General Science and Research) Volume IV.	37.
Apr. 6, 27, 1989	Authorization Hearings for DOE Environmental Programs in FY 1990.	38.
May 23, 24; June 7, 1989.	Science and Mathematics Education	39.
May 9, 1989	Long-Term Future of Landsat System	40.
May 2, 1989	H.R. 2152, the Inter-American Scientific Cooperation Act of 1989.	41.
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Feb. 28; Mar. 2, 1989.	Fiscal Year 1990 Department of Energy Authorization (Solar and Renewable Energy and Energy Conservation).	49.
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May 23, 1989	H.R. 1216, the Renewable Energy and Energy Efficiency Technology Competitiveness Act of 1989.	51.
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Sept. 13, 1989	Potomac River Air Cushion Vehicle Transportation System.	59.
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July 19, 1989	International Technology Transfer: Who is Minding the Store?	70.
Oct. 24, 1989	Honoring Winners of the 1989 Presidential Awards for Excellence in Mathematics and Science Teaching.	71.
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Oct. 18, 1989	H.R. 2793, the Hydrogen Research and Development Act.	80.
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Nov. 9, 1989	DC-10 Engine Failure/FAA R&D Needs	92.
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Feb. 28, 1990	Precollege Science and Mathematics Education	94.
Oct. 12, 1990	Science and Technology Initiatives in Poland and Hungary (H.R. 3307).	95.
Oct. 25, 1990	H.R. 1559 Civilian R&D Waste	96.
Mar. 13, 1990	National Aerospace Plane (NASP) Fiscal Year 1991 RDT&E Budget Request (H.A.S.C. No. 101-42).	97.
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Mar. 8, 1990	H.R. 3555, Aircraft Accident Prevention Act of 1989.	106.
Jan. 29, 1990	Solid Waste Reduction, Recycling, Pollution Prevention.	107.
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Apr. 26, 1990	Copyright Protection for Intellectual Protection to Enhance Technology Transfer.	117.
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May 1989	NASA Reports Required by Congress 1987-1988	B.
July 1989	International Standardization: The Federal Role	C.
July 1989	Science, Technology, and American Diplomacy 1989 (Joint Committee Print with the Committee on Foreign Affairs).	D.
Aug. 1989	Fiscal Year 1990 Authorization Request and Budget Estimates for the National Aeronautics and Space Administration.	E.
Aug. 1989	The Global Food and Population Equation: A Fragile Balance.	F.
Aug. 3, 1989	Ocean and Coastal Program Authorization Act (Report to accompany H.R. 1668).	H.Rept. 119:3
Aug. 2, 1989	Fastener Quality Act (Report to accompany H.R. 3000).	H.Rept. 211.1
Aug. 3, 1989	National Oceanic and Coastal Programs Authorization Administration Atmospheric and Satellite Programs (Report to accompany H.R. 2427).	H.Rept. 216
Aug. 4, 1989	Congressional Scholarships for Science, Mathematics, and Engineering Act (Report to accompany H.R. 996).	H.Rept. 220

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Aug. 31, 1989	National Aeronautics and Space Administration Multiyear Authorization Act of 1989 (Report to accompany H.R. 1759).	H.Rept. 226
Sept. 13, 1989	Oil Pollution Prevention, Response, Liability, and Compensation Act of 1989 (Report to accompany H.R. 3027).	H.Rept. 241:2
Sept. 20, 1989	Oil Pollution Liability and Compensation Act of 1989 (Report to accompany H.R. 1465).	H.Rept. 242:3
Sept. 19, 1989	Airport Security Technology and Research Act of 1989 (Report to accompany H.R. 2365).	H.Rept. 246
Sept. 1989	Bugs in the Program: Problems in Federal Government Computer Software Development and Regulation.	G.
Oct. 1989	Oversight Visit to the Far East	H.
Dec. 1989	Astronauts and Cosmonauts Biographical and Statistical Data (Revised—June 30, 1989).	I.
Oct. 25, 1989	Renewable Energy and Energy Efficiency Technology Competitiveness Act of 1989 (Report to accompany H.R. 1216).	H.Rept. 308:1
Oct. 26, 1989	Oversight of the National Science Foundation FY 1990 Programs.	H.Rept. 309
Oct. 26, 1989	Setting Priorities in Science and Technology	H.Rept. 310
Oct. 30, 1989	Aviation Research Grant Act of 1989 (Report to accompany H.R. 2581).	H.Rept. 320
Nov. 14, 1989	Hotel and Motel Fire Safety Act of 1989 (Report to accompany H.R. 94).	H.Rept. 357
Jan. 1990	Maintaining the Integrity of Scientific Research	J.
Jan. 1990	Science Policy Task Force Report Draft Chapter #1: Reports to the Congress on Science and Science Policy.	K.
Jan. 1990	Science Policy Task Force Report Draft Chapter #2: Regulatory Environment for Science Research.	L.
Feb. 1990	Science Policy Task Force Report Draft Chapter 4: Impact on Science of the Information Act.	M.
March 1990	1991 NASA Authorization FY 1991 Authorizaton Request and Budget Estimates.	N.
April 1990	NASA Reports Required by Congress (1989)	O.
April 1990	The Science, Technology, and American Diplomacy	P.
Dec. 1990	Report on Environmental Research, Development and Demonstration Activities at the EPA.	Q.

MEMBERS OF THE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY 101st CONGRESS—INDIVIDUAL MEMBER DATA

Member	State/District	House of Representatives Service	Committee Service	Other committee assignments 101st
		DEMOCRATS		
Robert A. Roe	NJ/8th	1969–	1971–	Public Works and Transportation; Permanent Select Committee on Intelligence.
George E. Brown, Jr.	CA/36th	1963–1970 1973–	1965–1970 1973–	Agriculture.
James H. Scheuer	NY/8th	1965–1972 1975–	1975–	Energy and Commerce; Joint Economic Committee; Select Committee on Narcotics Abuse and Control.
Marilyn Lloyd	TN/3rd	1975–	1975–	Armed Services; Select Committee on Aging.
Doug Walgren	PA/18th	1977–	1977–	Energy and Commerce.
Dan Glickman	KS/4th	1977–	1977–	Agriculture; Judiciary; Permanent Select Committee on Intelligence.
Harold L. Volkmer	MO/9th	1977–	1977–	Agriculture; Select Committee on Aging
Howard Wolpe	MI/3rd	1977–	1977–	Foreign Affairs.
Bill Nelson	FL/11th	1979–	1979–	Banking, Finance and Urban Affairs.
Ralph M. Hall	TX/4th	1981–	1981–	Energy and Commerce.
Dave McCurdy	OK/4th	1981–	1981–	Armed Services; Permanent Select Committee on Intelligence.
Norman Y. Mineta	CA/30th	1975–	1983–	Public Works and Transportation.
Tim Valentine	NC/2nd	1983–	1983–	Public Works and Transportation.
Robert G. Torricelli	NJ/9th	1983–	1983–	Foreign Affairs.
Rick Boucher	VA/9th	1983–	1983–	Energy and Commerce; Select Committee on Aging; Judiciary.
Terry L. Bruce	IL/19th	1985–	1985–	Energy and Commerce.
Richard H. Stallings	ID/2nd	1985–	1985–	Agriculture; Select Committee on Aging.
James A. Traficant, Jr	OH/17th	1985–	1985–	Public Works and Transportation; Select Committee on Narcotics Abuse and Control.
Lee H. Hamilton	IN/9th	1965–	1987–	Foreign Affairs; Joint Economic Committee
Henry J. Nowak	NY/33rd	1975–	1987–	Public Works and Transportation.
Carl C. Perkins	KY/7th	1984–	1987–	Education and Labor; Public Works and Transportation.
C. Thomas McMillen	MD/4th	1987–	1987–	Energy and Commerce.

MEMBERS OF THE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY 101st CONGRESS—INDIVIDUAL MEMBER DATA—Continued

Member	State/District	House of Representatives Service	Committee Service	Other committee assignments 101st
David E. Price	NC/4th	1987–	1987–	Banking, Finance and Urban Affairs.
David R. Nagle	IA/3rd	1987–	1987–	Agriculture.
Jimmy Hayes	LA/7th	1987–	1987–	Public Works and Transportation.
David E. Skaggs	CO/2nd	1987–	1987–	Public Works and Transportation; Select Committee on Children, Youth and Families.
Jerry F. Costello	IL/21st	1988–	1989–	Public Works and Transportation; Select Committee on Aging.
Harry Johnston	FL/14th	1989–	1989–	Foreign Affairs.
John Tanner	TN/8th	1989–	1989–	Armed Services.
Glen Browder	AL/3rd	1989–	1989–	Armed Services.
REPUBLICANS				
Robert S. Walker	PA/16th	1977–	1977–	Chief Deputy Minority Whip.
F. James Sensenbrenner, Jr.	WS/9th	1979–	1981–	Judiciary; Select Committee on Narcotics Abuse and Control.
Claudine Schneider	RI/2nd	1981–	1981–	Merchant Marine and Fisheries; Select Committee on Aging.
Sherwood L. Boehlert	NY/25th	1983–	1983–	Public Works and Transportation; Select Committee on Aging.
Tom Lewis	FL/12th	1983–	1983–	Agriculture; Select Committee on Narcotics Abuse and Control.
Don Ritter	PA/15th	1979–	1979–1980 1985–	Energy and Commerce.
Sid W. Morrison	WA/4th	1981–	1985–	Agriculture; Select Committee on Hunger.
Ron Packard	CA/43rd	1983–	1985–	Public Works and Transportation.
Robert C. Smith	NH/1st	1985–	1985–	Veterans Affairs.
Paul B. Henry	MI/5th	1985–	1985–	Education and Labor; Select Committee on Aging.
Harris W. Fawell	IL/13th	1985–	1985–	Education and Labor; Select Committee on Aging.
D. French Slaugher, Jr.	VA/7th	1985–	1985–	Small Business; Judiciary.
Lamar Smith	TX/21st	1987–	1987–	Judiciary; Select Committee on Children, Youth and Families.
Jack Buechner	MO/2nd	1987–	1987–	Budget.
Constance A. Morella	MD/8th	1987–	1987–	Post Office and Civil Service; Select Committee on Aging.
Christopher Shays	CT/4th	1987–	1987–	Government Operations.

MEMBERS OF THE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY 101st CONGRESS—INDIVIDUAL MEMBER DATA—Continued

Member	State/District	House of Representatives Service	Committee Service	Other committee assignments 101st
Dana Rohrabacher	CA/42nd	1989–	1989–	District of Columbia.
Steven H. Schiff	NM/1st	1989–	1989–	Government Operations.
Tom Campbell	CA/12th	1989–	1989–	Judiciary.
John J. Rhodes, III	AZ/1st	1987–	1990–	Interior & Insular Affairs; Small Business.

COMMITTEE MEMBERSHIP 85TH CONGRESS THROUGH 100TH CONGRESS

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

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* Serving on the Committee on the Budget, 96th Congress

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95TH CONGRESS 1977-1978

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* Resigned from U.S. House of Representatives May 4, 1977.

COMMITTEE ON SCIENCE AND TECHNOLOGY

94TH CONGRESS 1975–1976

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LARRY PRESSLER, South Dakota

*Resigned from Committee on February 19, 1975.
**Resigned from Committee on March 24, 1975.

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*Resigned from Committee on March 7, 1973.

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R. LAWRENCE COUGHLIN, Pennsylvania
JOHN N. HAPPY CAMP, Oklahoma

*Died October 6, 1971.
**Resigned from Committee on October 6, 1971.

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*Resigned from House of Representatives May 26, 1969.
**Resigned from Committee on April 30, 1970.
***Resigned from Committee on December 8, 1970.

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Public Law 101-48
101st Congress

An Act

June 30, 1989
[S. 1180]

To authorize the President to appoint Rear Admiral Richard Harrison Truly to the Office of Administrator of the National Aeronautics and Space Administration.

42 USC 2472 note.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That notwithstanding the provisions of section 202(a) of the National Aeronautics and Space Act of 1958 (42 U.S.C. 2472(a)), or any other provision of law, the President, acting by and with the advice and consent of the Senate, is authorized to appoint Rear Admiral Richard Harrison Truly to the Office of Administrator of the National Aeronautics and Space Administration. Admiral Truly's appointment to, acceptance of, and service in that Office shall in no way affect the status, rank, and grade which he holds as an officer on the retired list of the United States Navy, or any emolument, perquisite, right, privilege, or benefit incident to or arising out of any such status, office, rank, or grade, except to the extent that subchapter IV of chapter 55 of title 5, United States Code, affects the amount of retired pay to which he is entitled by law during his service as Administrator. So long as he serves as Administrator, Admiral Truly shall receive the compensation of that Office at the rate which would be applicable if he were not an officer on the retired list of the United States Navy, shall retain the status, rank, and grade which he now holds as an officer on the retired list of the United States Navy, shall retain all emoluments, perquisites, rights, privileges, and benefits incident to or arising out of such status, office, rank, or grade, and shall in addition continue to receive the retired pay to which he is entitled by law, subject to the provisions of subchapter IV of chapter 55 of title 5, United States Code.

SEC. 2. In the performance of his duties as Administrator of the National Aeronautics and Space Administration, Admiral Truly shall be subject to no supervision, control, restriction, or prohibition

(military or otherwise) other than would be operative with respect to him if he were not an officer on the retired list of the United States Navy.

SEC. 3. Nothing in this Act shall be construed as approval by the Congress of any future appointments of military persons to the Offices of Administrator and Deputy Administrator of the National Aeronautics and Space Administration.

Approved June 30, 1989.

LEGISLATIVE HISTORY—S. 1180:

SENATE REPORTS: No. 101-57 (Comm. on Commerce, Science, and Transportation).
CONGRESSIONAL RECORD, Vol. 135 (1989):
June 21, considered and passed Senate.
June 22, considered and passed House.

NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEARS 1990 AND 1991

Public Law 101-189
101st Congress

An Act

Nov. 29, 1989
[H.R. 2461]

To authorize appropriations for fiscal years 1990 and 1991 for military activities of the Department of Defense, for military construction, and for defense activities of the Department of Energy, to prescribe personnel strengths for such fiscal years for the Armed Forces, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

National Defense Authorization Act for Fiscal Years 1990 and 1991.
Arms and munitions.
Uniformed services.
Contracts.

SECTION 1. SHORT TITLE

This Act may be cited as the "National Defense Authorization Act for Fiscal Years 1990 and 1991".

SEC. 2. ORGANIZATION OF ACT INTO DIVISIONS; TABLE OF CONTENTS

(a) ORGANIZATION OF ACT INTO DIVISIONS.—This Act is organized into three divisions as follows:

(1) Division A—Department of Defense Authorizations.

(2) Division B—Military Construction Authorizations.

(3) Division C—Department of Energy National Security Authorizations and Other Authorizations.

(b) TABLE OF CONTENTS.—The table of contents for this Act is as follows:

Sec. 1. Short title.
Sec. 2. Organization of Act into divisions; table of contents.
Sec. 3. Expiration of authorizations for fiscal years after fiscal year 1990.
Sec. 4. Congressional defense committees defined.
Sec. 5. Annual outlay report.

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Sec. 104. Defense agencies.
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Sec. 115. Ongoing independent assessment of B-2 aircraft program.
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Sec. 118. Study of alternative B-2 aircraft force structures.
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Sec. 215. Grant for semiconductor cooperative research program.
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Sec. 217. Joint research project on magnetoencephalography (MEG) and neuromagnetism.
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Sec. 2407. Medical facility, Fort Sill, Oklahoma.

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SEC. 3. EXPIRATION OF AUTHORIZATIONS FOR FISCAL YEARS AFTER 1990

Authorizations of appropriations, and of personnel strength levels, in this Act for any fiscal year after fiscal year 1990 are effective only with respect to appropriations made during the first session of the One Hundred First Congress.

SEC. 4. CONGRESSIONAL DEFENSE COMMITTEES DEFINED

For purposes of this Act, the term "congressional defense committees" means the Committees on Armed Services and the Committees on Appropriations of the Senate and House of Representatives.

10 USC 114a note.

SEC. 5. ANNUAL OUTLAY REPORT

(a) ANNUAL REPORT ON OUTLAYS AND BUDGET AUTHORITY REQUIRED.—(1) Not later than December 15, 1989, and not later than December 15 of each year thereafter, the Director of the Office of Management and Budget and the Director of the Congressional Budget Office shall submit to the Speaker of the House of Representatives and the Committees on Armed Services, Appropria-

tions, and the Budget of the Senate a joint report containing an agreed resolution of all differences between—

(A) the technical assumptions to be used by the Office of Management and Budget in preparing estimates with respect to all accounts in major functional category 050 (National Defense) for the budget to be submitted to Congress pursuant to section 1105 of title 31, United States Code, in the year following the year in which the report is submitted; and

(B) the technical assumptions to be used by the Congressional Budget Office in preparing estimates with respect to such accounts for such budget.

(2) In the event that the Director of the Office of Management and Budget and the Director of the Congressional Budget Office are unable to agree upon any technical assumption, the report shall reflect the average of the relevant outlay rates or assumptions used by the Office of Management and Budget and the Congressional Budget Office.

(3) The report with respect to a budget shall identify the following:

(A) The agreed first-year and outyear outlay rates for each account for the Department of Defense for each fiscal year covered by the proposed budget.

(B) The agreed amount of outlays estimated to occur from unexpended appropriations made for fiscal years prior to the fiscal year that begins after submission of the report.

(b) SENSE OF CONGRESS REGARDING BUDGET RESOLUTIONS AND BUDGET SCOREKEEPING.—It is the sense of Congress that, in order to prevent a recurrence of a mismatch between budget authority and outlays for budget function 050 (National Defense), the technical assumptions contained in the report under subsection (i)(1) with respect to any budget should be used in the preparation of that budget, the preparation of the budget resolution, and in all scorekeeping in connection with budget function 050 (National Defense).

(c) SENSE OF CONGRESS REGARDING REQUIRED REDUCTIONS AND OTHER CHANGES IN NATIONAL DEFENSE OUTLAYS IN RELATION TO BUDGET AUTHORITY.—It is the sense of Congress that the outlay level specified for national defense for any fiscal year in the budget resolution for that fiscal year should not require a reduction (or other change) in outlays for national defense for that fiscal year below (or in relation to) the estimated outlays specified for national defense in the budget for such fiscal year (submitted to Congress pursuant to section 1105 of title 31, United States Code) by more than the amount by which such estimated outlays would be reduced (or otherwise changed) if the amount of budget authority provided for in each title of the President's request for budget authority for national defense (as contained in such budget) were reduced (or otherwise changed) by the uniform percentage necessary for the requested budget authority for national defense to be equal to the budget authority specified for national defense in that budget resolution unless the budget resolution is accompanied by a report that describes the difference between the budget authority and outlays for National Defense (function 050) in the President's budget and the budget resolution.

DIVISION A—DEPARTMENT OF DEFENSE AUTHORIZATIONS

TITLE I—PROCUREMENT

PART A—FUNDING AUTHORIZATIONS

SEC. 101. ARMY

(a) AIRCRAFT.—Funds are hereby authorized to be appropriated for procurement of aircraft for the Army as follows:

(1) $3,120,500,000 for fiscal year 1990, of which $1,021,908,000 shall be available for modification of aircraft.

(2) $2,617,038,000 for fiscal year 1991.

(b) MISSILES.—Funds are hereby authorized to be appropriated for procurement of missiles for the Army as follows:

(1) $2,756,827,000 for fiscal year 1990, of which $107,337,000 shall be available for modification of missiles.

(2) $2,571,260,000 for fiscal year 1991.

(c) WEAPONS AND TRACKED COMBAT VEHICLES.—Funds are hereby authorized to be appropriated for procurement of weapons and tracked combat vehicles for the Army as follows:

(1) $2,717,500,000 for fiscal year 1990.

(2) $2,602,026,000 for fiscal year 1991.

(d) AMMUNITION.—Funds are hereby authorized to be appropriated for procurement of ammunition for the Army as follows:

(1) $1,887,047,000 for fiscal year 1990.

(2) $1,365,609,000 for fiscal year 1991

(e) OTHER PROCUREMENT.—Funds are hereby authorized to be appropriated for other procurement for the Army as follows:

(1) $3,068,771,000 for fiscal year 1990, of which—

(A) $446,282,000 is for tactical and support vehicles;

(B) $1,469,183,000 is for communications and electronics equipment; and

(C) $1,153,306,000 is for other support equipment.

(2) $3,146,340,000 for fiscal year 1991.

(f) INSTALLATION OF MODERNIZATION EQUIPMENT.—Of the amounts authorized to be appropriated in this section for fiscal year 1990, funds shall be available for procurement and installation of modernization equipment (in addition to the amounts for modifications specified in subsections (a)(1) and (b)(1)) as follows:

(1) Of funds appropriated for aircraft procurement for the Army, $89,900,000.

(2) Of funds appropriated for missile procurement for the Army, $38,300,000.

(3) Of funds appropriated for weapons and tracked combat vehicles, $143,400,000.

(4) Of funds appropriated for other procurement for the Army, $97,700,000.

SEC. 102. NAVY AND MARINE CORPS

(a) AIRCRAFT.—(1) Funds are hereby authorized to be appropriated for procurement of aircraft for the Navy as follows:

(A) $9,500,222,000 for fiscal year 1990.

(B) $4,353,057,000 for fiscal year 1991.

(2) Of the amounts authorized to be appropriated pursuant to paragraph (1) for fiscal year 1990, funds shall be available for certain programs as follows:

(A) For the F-14D aircraft program, $1,529,664,000 of which—

(i) $1,175,336,000 shall be available for procurement of 18 new production F-14D aircraft and related new production close-out;

(ii) $272,000,000 shall be available for procurement of six remanufactured F-14D aircraft; and

(iii) $82,664,000 shall be available for advance procurement for remanufactured F-14D aircraft.

(B) For the CH/MH-53E aircraft program, $254,000,000 for 10 CH-53E aircraft and four MH-53E aircraft, subject to the limitation that any CH-53E aircraft procured with such funds shall be available only for the heavy-lift mission of the Marine Corps.

(C) For modification of aircraft, $600,757,000 shall be available for procurement of aircraft modifications.

(b) WEAPONS.—(1) Funds are hereby authorized to be appropriated for procurement of weapons (including missiles and torpedoes) for the Navy as follows:

(A) $3,884,035,000 for fiscal year 1990.

(B) $1,987,294,000 for fiscal year 1991.

(2) Amounts authorized to be appropriated pursuant to paragraph (2) for fiscal year 1990 shall be available as follows:

(A) For ballistic missile programs, $1,518,165,000.

(B) For other missile programs, $2,798,552,000.

(C) For torpedo programs, $810,954,000 as follows:

For the MK-48 torpedo program, $438,900,000.

For the Sea Lance program, $1,799,000.

For the MK-50 torpedo program, $269,130,000.

For the ASW target program, $12,983,000.

For the ASROC program, $9,282,000.

For the modification of torpedoes and related equipment, $15,653,000.

For the torpedo support equipment program, $39,002,000.

For the antisubmarine warfare range support program, $24,205,000.

(D) For other weapons, $184,361,000, of which—

(i) $74,990,000 is for the MK-15 close-in weapon system; and

(ii) $63,771,000 is for the close-in weapon system modification program.

(E) For spares and repair parts, $94,441,000.

The sum of amounts authorized to be appropriated for fiscal year 1990 for torpedo programs, other weapons, and spares and spare parts is reduced by $7,800,000.

(c) SHIPBUILDING AND CONVERSION.—(1) Funds are hereby authorized to be appropriated for shipbuilding and conversion for the Navy as follows:

(A) $10,958,400,000 for fiscal year 1990.

(B) $9,532,656,000 for fiscal year 1991.

(2) Amounts authorized to be appropriated pursuant to paragraph (1) shall be available as follows:

For the Trident submarine program, $1,137,800,000 for fiscal year 1990.

For the SSN-688 nuclear attack submarine program, $763,300,000 for fiscal year 1990.

For the SSN-21 nuclear attack submarine program, $816,800,000 for fiscal year 1990 and $3,329,000,000 for fiscal year 1991.

For the aircraft carrier service life extension program (SLEP), $651,200,000 for fiscal year 1990 and $76,600,000 for fiscal year 1991.

For the Enterprise refueling/modernization program, $1,422,100,000 for fiscal year 1990.

For the DDG-51 guided missile destroyer program, $3,533,700,000 for fiscal year 1990 and $3,604,700,000 for fiscal year 1991.

For the LHD-1 amphibious assault ship program, $35,000,000 for fiscal year 1990 and $959,900,000 for fiscal year 1991.

For the LSD-41 cargo variant program, $229,300,000 for fiscal year 1990 and $232,700,000 for fiscal year 1991.

For the MCM mine countermeasures program, $341,500,000 for fiscal year 1990.

For the MHC coastal minehunter program, $282,000,000 for fiscal year 1990 and $255,900,000 for fiscal year 1991.

For the AO (Jumbo) conversion program, $35,700,000 for fiscal year 1990.

For the TAGOS ocean surveillance ship program, $155,800,000 for fiscal year 1990.

For the AOE fast combat support ship program, $356,400,000 for fiscal year 1990 and $357,700,000 for fiscal year 1991.

For the oceanographic research ship program, $278,100,000 for fiscal year 1990 and $41,900,000 for fiscal year 1991.

For the moored training ship program, $220,000,000 for fiscal year 1990.

For service craft and landing craft, $56,400,000 for fiscal year 1990 and $88,600,000 for fiscal year 1991.

For the landing craft, air cushion (LCAC) program, $273,300,000 for fiscal year 1990 and $284,000,000 for fiscal year 1991.

For the Fast Sealift ship program, $20,000,000 for fiscal year 1990 and $240,000,000 for fiscal year 1991.

For outfitting and post delivery, $340,000,000 for fiscal year 1990.

For ship production engineering, $61,656,000 for fiscal year 1991.

For ship special support equipment, $10,000,000 for fiscal year 1990.

(d) OTHER PROCUREMENT, NAVY.—(1) Funds are hereby authorized to be appropriated for other procurement for the Navy as follows:

(A) $8,207,125,000 for fiscal year 1990.

(B) $5,144,805,000 for fiscal year 1991.

(2) Of the amounts authorized to be appropriated pursuant to paragraph (1) for fiscal year 1990, funds shall be available for certain programs as follows:

(A) For the ship support equipment program, $711,413,000.

(B) For the communications and electronics equipment program, $1,535,019,000.

(D) For aviation support equipment, $591,398,000.

(E) For the ordnance support equipment program, $1,079,346,000.

(F) For civil engineering support equipment, $113,592,000.

(G) For supply support equipment, $156,081,000.

(H) For personnel and command support equipment, $409,471,000.

(I) For spares and repair parts, $529,905,000.

The sum of amounts authorized to be appropriated for ship support equipment, communications and electronics equipment, ordnance support equipment, and spares and repair parts is reduced by $15,300,000.

(e) MARINE CORPS.—Funds are hereby authorized to be appropriated for procurement for the Marine Corps as follows:

(1) $1,215,600,000 for fiscal year 1990.

(2) $748,380,000 for fiscal year 1991.

(f) INSTALLATION OF MODERNIZATION EQUIPMENT.—Of the amounts authorized to be appropriated in this section for fiscal year 1990, funds shall be available for procurement and installation of modernization equipment (in addition to the amounts for modification specified in subsections (a)(2)(C) and (d)(2)(A)) as follows:

(1) Of funds appropriated for aircraft procurement for the Navy, $783,400,000.

(2) Of funds appropriated for weapons procurement for the Navy, $33,800,000.

(3) Of funds appropriated for other procurement for the Navy, $3,096,200,000.

(4) Of funds appropriated for procurement for the Marine Corps, $15,400,000.

SEC. 103. AIR FORCE

(a) AIRCRAFT.—Funds are hereby authorized to be appropriated for procurement of aircraft for the Air Force as follows:

(1) $16,329,857,000 for fiscal year 1990, of which $2,107,969,000 shall be available for modification of aircraft.

(2) $11,120,820,000 for fiscal year 1991.

(b) MISSILES.—Funds are hereby authorized to be appropriated for procurement of missiles for the Air Force as follows:

(1) $7,110,900,000 for fiscal year 1990, of which $115,647,000 shall be available for modification of missiles.

(2) $5,327,084,000 for fiscal year 1991.

(c) OTHER PROCUREMENT.—Funds are hereby authorized to be appropriated for other procurement for the Air Force as follows:

(1) $8,538,454,000 for fiscal year 1990, of which—

(A) $410,921,000 is for munitions and associated support equipment;

(B) $224,268,000 is for vehicular equipment;

(C) $2,322,727,000 is for electronics and telecommunications equipment; and

(D) $5,580,538,000 is for other base maintenance and support equipment.

(2) $8,187,568,000 for fiscal year 1991.

(d) INSTALLATION OF MODERNIZATION EQUIPMENT.—Of the amounts authorized to be appropriated in this section for fiscal year 1990, funds shall be available for procurement and installation of modernization equipment (in addition to the amounts for modifications specified in subsections (a)(1) and (b)(1)) as follows:

(1) Of funds appropriated for aircraft procurement for the Air Force, $685,900,000.

(2) Of funds appropriated for missile procurement for the Air Force, $38,400,000.

SEC. 104. DEFENSE AGENCIES

Funds are hereby authorized to be appropriated for procurement for the Defense Agencies as follows:

(1) $1,332,251,000 for fiscal year 1990.

(2) $1,113,169,000 for fiscal year 1991.

SEC. 105. RESERVE COMPONENTS

(a) AUTHORIZATION OF APPROPRIATIONS.—Funds are hereby authorized to be appropriated for fiscal year 1990 for procurement of aircraft, vehicles, communications equipment, and other equipment for the reserve components of the Armed Forces as follows:

(1) For the Army National Guard, $209,000,000.

(2) For the Air National Guard, $350,500,000.

(3) For the Army Reserve, $75,000,000.

(4) For the Navy Reserve, $74,300,000.

(5) For the Air Force Reserve, $219,500,000.

(6) For the Marine Corps Reserve, $60,000,000.

(b) INSTALLATION OF MODERNIZATION EQUIPMENT.—Of the amounts authorized to be appropriated in subsection (a) for fiscal year 1990, funds shall be available for procurement and installation of modernization equipment as follows:

(1) Of funds appropriated for the Navy Reserve, $28,300,000.

(2) Of funds appropriated for the Air Force Reserve, $10,000,000.

(3) Of funds appropriated for the Air National Guard, $59,500,000.

SEC. 106. CHEMICAL DEMILITARIZATION PROGRAM

Funds are hereby authorized to be appropriated for the destruction of lethal chemical weapons in accordance with section 1412 of the Department of Defense Authorization Act, 1986 (Public Law 99-145; 99 Stat. 747) as follows:

(1) $263,700,000 for fiscal year 1990.

(2) $317,700,000 for fiscal year 1991.

SEC. 107. MULTIYEAR AUTHORIZATIONS

(a) AUTHORIZED MULTIYEAR PROCUREMENTS.—The Secretary of the military department concerned may use funds appropriated for fiscal year 1990 to enter into multiyear procurement contracts in accordance with section 2306(h) of title 10, United States Code, for the following programs:

(1) ARMY.—For the Department of the Army:

(A) The M-1 Abrams tank program.

(B) The Bradley Fighting Vehicle program.

(C) The MH-47 helicopter program.

(D) The Family of Heavy Tactical Vehicles program.

(2) NAVY.—For the Department of the Navy:

(A) The DDG-51 destroyer program.

(B) The SH-60 B/F helicopter program.

(C) The Mark 45 gun mount and Mark 6 ammunition hoist program.

(3) AIR FORCE.—For the Department of the Air Force:

(A) The KC-135 tanker aircraft program.

(B) The Combined Effects Munitions (CEM) program.

(C) The MH-60G helicopter program.
(D) The Maverick AGM65D missile program.

(b) DENIAL OF CERTAIN MULTIYEAR PROCUREMENTS.—The Secretary of the military department concerned may not use funds appropriated for fiscal year 1990 to enter into a multiyear procurement contract for any of the following programs:
(1) The E-2C aircraft program.
(2) The FA-18 aircraft program.

SEC. 108. CHANGES IN PRIOR MILESTONE AUTHORIZATIONS

(a) PROCUREMENT PROGRAMS.—(1) Subsection (a)(2) of section 106 of the National Defense Authorization Act for Fiscal Years 1988 and 1989 (Public Law 100-180; 101 Stat. 1034) is amended—
(A) by striking out "$976,200,000" in subparagraph (A) and inserting in lieu thereof "$984,719,000"; and
(B) by striking out "$360,000,000" in subparagraph (B) and inserting in lieu thereof "$68,596,000".
(2) Subsection (b)(2) of such section is amended—
(A) by striking out "$158,200,000" in subparagraph (A) and inserting in lieu thereof "$94,873,000"; and
(B) by striking out "$209,000,000" in subparagraph (B) and inserting in lieu thereof "$199,858,000".
(3) Subsection (c)(2) of such section is amended—
(A) by striking out "$2,215,000,000" in subparagraph (A) and inserting in lieu thereof "$1,514,638,000"; and
(B) by striking out "$2,090,500,000" in subparagraph (B) and inserting in lieu thereof "$1,535,225,000".
(4) Subsection (d)(2) of such section is amended—
(A) by striking out "$437,700,000" in subparagraph (A) and inserting in lieu thereof "$153,114,000"; and
(B) by striking out "$596,300,000" in subparagraph (B) and inserting in lieu thereof "$431,565,000".

(b) RDT&E PROGRAMS.—(1) Subsection (a)(2) of section 216 of such Act (101 Stat. 1051) is amended by striking out "$49,000,000" and inserting in lieu thereof "$44,661,000".
(2) Subsection (b)(2) of such section is amended—
(A) by striking out "$338,300,000" in subparagraph (A) and inserting in lieu thereof "$216,054,000"; and
(B) by striking out "$164,700,000" in subparagraph (B) and inserting in lieu thereof "$70,670,000".
(3) Subsection (c)(2) of such section is amended—
(A) by striking out "$23,700,000" in subparagraph (A) and inserting in lieu thereof "$22,475,000"; and
(B) by striking out "$24,000,000" in subparagraph (B) and inserting in lieu thereof "$14,603,000".

PART B—B-2 AIRCRAFT PROGRAM

SEC. 111. B-2 BOMBER PROGRAM FUNDING AND LIMITATIONS FOR FISCAL YEAR 1990

(a) AMOUNT AUTHORIZED.—Of the amounts appropriated pursuant to section 103(a) for procurement of aircraft for the Air Force for fiscal year 1990—
(1) not more than $1,663,974,000 may be obligated for procurement of B-2 aircraft;
(2) not more than $424,800,000 may be obligated for advance procurement of B-2 aircraft; and

(3) not more than $331,600,000 may be obligated for procurement of initial spares for B–2 aircraft.

(b) BLOCK 1 FLIGHT TESTING.—Funds appropriated for fiscal year 1990 for procurement of aircraft for the Air Force may not be obligated for the procurement of new production B–2 aircraft until—

(1) the planned Block 1 program of flight testing of the B–2 aircraft (consisting of approximately 75 flight test hours and 15 flights) is completed;

(2) the Director of Operational Test and Evaluation of the Department of Defense—

(A) reviews the Block 1 flight test data;

(B) evaluates the performance of the B–2 aircraft during such flight testing with respect to issues considered to be "Critical Operational Issues"; and

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(C) submits to the Secretary of Defense a report containing (i) the results of such review and such evaluation (including the Director's findings and conclusions concerning such test data), and (ii) an assessment known as an "Early Operational Assessment"; and

(3) the Secretary of Defense certifies to the congressional defense committees that no major aerodynamic problem or flightworthiness problem has been identified during the Block 1 flight testing of the B–2 aircraft.

(c) BLOCK 2 FLIGHT TESTING.—(1) Funds appropriated for fiscal year 1990 for procurement of aircraft for the Air Force may not be obligated for the procurement of B–2 aircraft until Block 2 flight testing (including testing of low-observables and flying qualities and performance testing in accordance with the Test and Evaluation Master Plan approved for the B–2 program) begins.

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(2) Of the amounts made available for fiscal year 1990 for the procurement of B–2 aircraft, not more than 15 percent may be expended until—

(A) the panel of the Defense Science Board known as the Low-Observables Panel conducts an independent review of the test data resulting from early Block 2 flight testing and submits to the Secretary of Defense a report on the results of that review, together with the Panel's findings and conclusions, and a period of seven days elapses after the Secretary receives such report; and

(B) the Secretary of Defense, after receiving such report, certifies to the congressional defense committees that—

(i) the results of early Block 2 flight testing of that aircraft (including testing of low-observables and flying qualities and performance) are satisfactory; and

(ii) no significant technical or operational problems have been identified during early Block 2 flight testing.

(3) Not later than seven days after the date on which the Secretary receives the report under paragraph (2)(A), the Director of Operational Test and Evaluation shall submit to the Secretary the Director's evaluation of the results of the Block 2 flight testing to that date.

(d) APPLICATION OF LIMITATIONS AND REQUIREMENTS.—The limitations in subsections (b) and (c) apply only to the two new production B–2 aircraft for which funds are provided for fiscal year 1990.

SEC. 112. LIMITATION ON ANNUAL PRODUCTION OF B-2 BOMBER FOR FISCAL YEARS AFTER FISCAL YEAR 1990

(a) REQUIRED ANNUAL CERTIFICATION.—Funds appropriated to the Department of Defense for a fiscal year after fiscal year 1990 may not be obligated or expended for procurement for new production aircraft under the B-2 bomber program unless and until the Secretary of Defense submits to the congressional defense committees the certification referred to in subsection (b) with respect to that fiscal year.

(b) CERTIFICATION.—A certification referred to in subsection (a) for any fiscal year is a certification submitted by the Secretary of Defense to the congressional defense committees after the beginning of the fiscal year which is in writing and in unclassified form and in which the Secretary certifies each of the following: Public information.

(1) That the performance milestones for the B-2 aircraft for the previous fiscal year for both developmental test and evaluation and operational test and evaluation (as contained in the latest full performance matrix for the B-2 aircraft program established under section 232(a) of Public Law 100-456 and section 121 of Public Law 100-180) have been met.

(2) That the B-2 aircraft has a high probability of being able to perform its intended missions.

(3) That any proposed modification to the performance matrix referred to in paragraph (1) will be provided in writing in advance to the congressional defense committees.

(4) That the cost reduction initiatives established for the B-2 program can be achieved (such certification to be submitted together with details of the savings to be realized).

(5) That the quality assurance practices and fiscal management controls of the prime contractor and major subcontractors associated with the B-2 program meet or exceed accepted United States Government standards.

SEC. 113. ONGOING EVALUATION BY COMPTROLLER GENERAL OF B-2 TEST AND EVALUATION RESULTS

(a) EVALUATION.—The Comptroller General of the United States shall review all test reports and evaluation documents of the Department of Defense concerning the B-2 aircraft program.

(b) REPORTS.—The Comptroller General shall submit to Congress periodic reports setting forth the Comptroller General's findings resulting from the review under subsection (a). In addition to whatever other reports the Comptroller General submits under the preceding sentence, the Comptrolier General shall submit a report under that sentence—

(1) not later than 30 days after the date on which the Secretary of Defense submits a certification under section 111(b)(3) with respect to Block 1 flight testing or a certification under section 111(c)(2)(B) with respect to Block 2 flight testing; and

(2) in any fiscal year, not later than 30 days after the date on which the Secretary of Defense submits a certification under section 112(a) with respect to that fiscal year.

(c) MATTERS TO BE INCLUDED IN REPORT.—Each report under subsection (b) shall include the Comptroller General's evaluation of—

(1) the rigor, realism, and adequacy of the developmental test and evaluation and the operational test and evaluation activities;

(2) whether such test and evaluation complies with the full performance matrix described in section 112(b)(1); and

(3) whether threat data as agreed upon within the United States intelligence community was fully used in the test and evaluation process.

(d) UNCLASSIFIED SUMMARY.—Each such report shall include an unclassified statement containing a summary of the findings of the Comptroller General with respect to each principal matter discussed in the report.

SEC. 114. REPORT ON COST, SCHEDULE, AND CAPABILITY

(a) REQUIRED REPORT.—The Secretary of Defense shall submit to the congressional defense committees a report on the cost, schedule, and capability of the B–2 aircraft program. The report shall provide the following:

(1) An unclassified integrated program schedule for the B–2 aircraft program that includes—

(A) the total cost of the program shown by fiscal year, including costs (shown by fiscal year) for research and development, for procurement (including advance procurement, spares, and modifications), for military construction, for operation and maintenance, and for personnel (with all such costs to be expressed in both base year and then year dollars); and

(B) the proposed annual buy rate of B–2 aircraft.

(2) A detailed statement of the mission and requirements for the B–2 aircraft, including the current and projected capability (based on threat data as agreed upon within the United States intelligence community) of the B–2 aircraft to conduct missions against strategic relocatable targets and to conduct conventional warfare operations.

(3) A detailed assessment of the performance of the B–2 aircraft, together with a comparison of that performance with the performance of existing strategic penetrating bombers of the United States based on threat data as agreed upon within the United States intelligence community.

(4) A detailed assessment of the technical risks associated with the B–2 program, particularly those risks associated with the avionics systems and components of the aircraft.

(b) LIMITATION ON FUNDING UNTIL REPORT SUBMITTED.—Funds appropriated to the Department of Defense for fiscal year 1990 may not be obligated or expended for procurement for new production aircraft under the B–2 bomber program until the report required by subsection (a) is submitted to the congressional defense committees.

SEC. 115. ONGOING INDEPENDENT ASSESSMENT OF B–2 AIRCRAFT PROGRAM

(a) INDEPENDENT ASSESSMENT.—The Secretary of Defense shall provide for an ongoing independent assessment of the technological capabilities and performance of the B–2 aircraft. The Secretary shall appoint a panel of experts and shall use the resources of federally funded research and development centers (FFRDCs) to conduct the assessment. The Secretary shall provide the panel such resources as are necessary, including technical assistance by private contractors and the United States intelligence community, to assist the panel in conducting the assessment. Individuals appointed to the panel shall

be independent of the Air Force and shall have no arrangements with the Air Force that would constitute a conflict of interest.

(b) REPORT.—The panel shall submit periodic reports of its findings to Congress. The first such report shall be submitted not later than April 1, 1990. Subsequent reports shall be submitted every six months thereafter until B-2 aircraft procurement is completed. Such reports shall be submitted in both classified and unclassified form. Each such report shall address the following matters:

(1) The capability of air defenses of the Soviet Union to defeat the B-2 aircraft during the designed service life of that aircraft, taking into consideration in particular— Union of Soviet Socialist Republics.

(A) the low radar signature and anticipated performance of the aircraft;

(B) technological capabilities of the Soviet Union;

(C) developments by the Soviet Union of alternatives to defeat the B-2 aircraft; and

(D) the estimated cost to the Soviet Union to defeat the B-2 aircraft.

(2) The rationale for building the B-2 aircraft as a manned penetrating bomber, taking into consideration in particular—

(A) the missions of the aircraft;

(B) the capabilities of the aircraft to complete those missions; and

(C) the capability of the aircraft to search for, identify, and destroy strategic relocatable targets.

(3) The opportunity costs associated with the B-2 program as compared to other available or emerging technologies and operational concepts that could perform the missions of the B-2 aircraft at lesser costs.

(4) The planned service life of the B-2 aircraft and the potential for growth in that planned service life through the incorporation of preplanned product improvements and other modifications.

(5) The requirements for any follow-on aircraft or system that incorporates both low observable technology and high speed maneuverability.

(6) An assessment of the capability of the United States to defeat, identify, and destroy low observable vehicles, including manned aircraft and unmanned systems.

SEC. 116. SUBMISSION OF UNCLASSIFIED VERSION OF B-2 PERFORMANCE MATRIX

The Secretary of Defense shall submit to the congressional defense committees a report containing an unclassified version of the latest full performance matrix for the B-2 program established under section 121 of Public Law 100-180 and section 232 of Public Law 100-456. The report shall be submitted at the same time as the budget of the President for fiscal year 1991 is submitted to Congress pursuant to section 1105 of title 31, United States Code. Reports.

SEC. 117. REPORTS RELATING TO CORRECTION-OF-DEFICIENCIES CLAUSES IN B-2 AIRCRAFT PROCUREMENT CONTRACTS

(a) REPORTS REQUIRED.—The Secretary of Defense shall submit to the congressional defense committees two reports on the implementation of the contractor guarantee requirements of section 2403 of title 10, United States Code, with respect to the B-2 aircraft program. Each such report shall include the following:

(1) A copy of each so-called "correction of deficiency" clause in a contract with the prime contractor for the B–2 aircraft program in effect as of the date of the submission of the report.

(2) The plans of the Department of Defense for meeting the requirements of subsection (b) of section 2403 of title 10, United States Code, in future contracts for the procurement of B–2 aircraft, including a copy of any specific contract clause that has been agreed to by the Air Force and the contractor under that subsection.

(3) The manner in which inspection or acceptance by the Air Force will affect the relative liability of the Government and the contractor—

(A) under the contract clauses referred to in paragraphs (1) and (2), and

(B) under the plans referred to in paragraph (2) for compliance with the contractor guarantee requirements referred to in that paragraph.

(b) SUBMISSION OF REPORTS.—The first report required by subsection (a) shall be submitted not later than 30 days after the date of the enactment of this Act. The second report shall be submitted in conjunction with the certification under section 111(b)(3).

(c) PROTECTION OF PROPRIETARY INFORMATION.—The reports required by this section shall be submitted in classified and unclassified versions and shall clearly identify any material that contains proprietary information or other source selection information, the disclosure of which is restricted by law or regulation.

(d) MODIFICATION OF CORRECTION-OF-DEFICIENCY CLAUSES.—(1) The Secretary of the Air Force shall take appropriate steps to ensure—

(A) that the procurement of all B–2 aircraft authorized for fiscal years 1989 and 1990 is subject to a contractor guarantee pursuant to section 2403 of title 10, United States Code; and

(B) that the prime contractor for such aircraft is required to assume a substantially greater responsibility for the cost of corrective actions required under section 2403(b) of such title than under existing contracts for B–2 aircraft.

(2) Notwithstanding section 2403(g) of such title, the Secretary may not negotiate exclusions or limitations on the prime contractor's financial liability for the cost of corrective action for defects under section 2403(b) of such title for the B–2 aircraft referred to in paragraph (1) that would result in the total of such liability for such costs being less than the total of the contractor's target profit on the production of such aircraft unless the Secretary determines that the specific benefits of such exclusions or limitations substantially outweigh the potential costs.

(3) Whenever the Secretary makes a determination under paragraph (2), the Secretary shall notify the congressional defense committees of that determination and shall include in such notification the specific reasons for such determination and copies of any relevant exclusions or limitations.

(4) The Secretary shall describe in the reports required by subsection (a) the steps the Air Force has taken under this subsection.

(5) Nothing in this section shall be construed to require the renegotiation of any contract in effect on the date of the enactment of this Act.

SEC. 118. STUDY OF ALTERNATIVE B-2 AIRCRAFT FORCE STRUCTURES

(a) REQUIREMENT FOR STUDY.—The Secretary of Defense shall conduct a comprehensive study of the force structure for the B-2 aircraft. Under the study, the Secretary shall compare—

(1) the current plan of the Department of Defense to produce 132 B-2 aircraft, with

(2) two alternative plans for production of B-2 aircraft, one of which would provide for procurement of three wings of B-2 aircraft with a total of 90 to 100 aircraft and the second of which would provide for procurement of two wings of B-2 aircraft with a total of 60 to 70 aircraft.

(b) MATTERS TO BE CONSIDERED.—In conducting the study under subsection (a), the Secretary of Defense shall determine the implications of adopting the alternative plans described in subsection (a)(2) with respect to each of the following:

(1) The cost of the B-2 aircraft program, including—

(A) annual program costs,

(B) total program costs,

(C) 20-year life cycle costs, and

(D) unit and flyaway costs.

(2) The effect on the military and arms control posture of the United States, including—

(A) strategic nuclear deterrent capabilities,

(B) long-range conventional strike capabilities, and

(C) on-going arms control negotiations and post-treaty force structures.

(c) REPORT.—The Secretary shall submit to the congressional defense committees a report in both classified and unclassified form containing the results of the study conducted under subsection (a). The report shall include such comments and recommendations as the Secretary considers appropriate and shall be submitted not later than March 31, 1990.

SEC. 119. SENSE OF CONGRESS ON PROCUREMENT OF B-2 AIRCRAFT

(a) FINDINGS.—Congress makes the following findings:

(1) The United States has devoted substantial resources over the past several decades to the strategic bomber force, including substantial resources for—

(A) significant upgrades to B-52 aircraft;

(B) research, development, and procurement of B-1 aircraft; and

(C) research, development, and procurement of air-launched cruise missiles.

(2) The current estimate of the Department of Defense of a cost of $70,200,000,000 for acquisition of a force of 132 B-2 aircraft is predicated on several assumptions, including the achievement of cost-reduction initiatives, not all of which have been contracted for.

(3) The life-cycle costs for a force of 132 B-2 aircraft would be significantly higher than the acquisition cost estimate of $70,200,000,000.

(4) Funds have been approved for the production of 10 B-2 aircraft through fiscal year 1990, but Congress has not decided the total number of such aircraft that should be produced.

(5) If a substantial number of B-2 aircraft is not procured, additional funds could be made available for other important military programs.

(6) Fiscal year 1990 will constitute the fifth consecutive fiscal year for which the amount appropriated for national defense functions of the Government declined (after adjusting for inflation) from the preceding fiscal year.

(7) Expected limitations on future defense budgets make it essential that the Nation's defense priorities be carefully analyzed so as to properly fund the Armed Forces, including the various elements of the Nation's strategic forces.

(b) SENSE OF CONGRESS.—In light of the findings in subsection (a), it is the sense of Congress that—

(1) it is not prudent or possible at this time to commit to a production rate for the B–2 aircraft higher than the rate under the low-rate initial production plan;

(2) the contingent authorization of funds in this Act for the low-rate initial production of two additional B–2 aircraft does not constitute a commitment to support the procurement of large numbers of B–2 aircraft, to provide funding in subsequent years for rate production of B–2 aircraft, or to approve a multiyear procurement of B–2 aircraft; and

(3) before a commitment is made to proceed with initial full-rate production of the B–2 aircraft, the President and Congress should carefully consider (based upon the assumption of a START regime that uses the Reykjavik counting rule for bombers, upon the assumption of a START regime that uses alternative rules for counting bombers, and upon the assumption of no START treaty) the desirability and feasibility of—

(A) structuring the strategic bomber force of the United States in such a manner that primary reliance would be placed upon bombers carrying cruise missiles rather than bombers having strictly a penetrating role; and

(B) pursuing options for the procurement of significantly fewer than 132 B–2 aircraft so that, if a decision is made in the future to procure an operational force of B–2 aircraft, the total acquisition and life-cycle cost of the B–2 aircraft program would be reduced.

PART C—OTHER STRATEGIC PROGRAMS

SEC. 121. LIMITATIONS ON B–1B ELECTRONIC COUNTERMEASURES RECOVERY PROGRAM

(a) GENERAL LIMITATION.—The Secretary of the Air Force may proceed with the recovery program for the B–1B aircraft electronic countermeasures (ECM) system only in accordance with this section.

(b) REQUIREMENT FOR TESTING PROGRAM.—(1) During fiscal years 1990 and 1991, the Secretary of Defense shall conduct a comprehensive program for the systematic testing of the B–1B avionics modifications.

(2) For purposes of this section, the term "B–1B avionics modifications" means the modifications proposed by the Air Force to the defensive avionics system of the B–1B aircraft consisting of (A) the "core configuration" modification to the ALQ–161 system, plus (B) the installation and integration of a radar warning receiver.

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(3) Not later than 60 days after the date of the enactment of this Act, the Secretary shall submit to the congressional defense committees a detailed plan for the conduct of the systematic testing

program required by paragraph (1). The plan shall include the following:

(A) The planned test schedule for each of the various components of the defensive avionics system of the B-1B aircraft, to be tested both singly and in combination with other components of the defensive and offensive avionics systems for the aircraft.

(B) The objectives of each of the planned tests and the criteria that will be used to determine whether each such test is successful, partially successful, or unsuccessful.

(C) An explanation of how those scheduled tests can be used to estimate the capability of the B-1B aircraft to penetrate air defenses of the Soviet Union, including both single and multiple air defense threats.

(c) MODIFICATIONS TO B-1B AIRCRAFT.—(1) The Secretary of the Air Force may modify not more than six B-1B aircraft to incorporate the B-1B avionics modifications.

(2) The aircraft that are so modified shall be used to conduct the test program required by subsection (b). The test program shall be carried out in accordance with the plan submitted under subsection (b)(3).

(3) Except as provided in paragraph (4), no B-1B aircraft other than those modified pursuant to paragraph (1) may be modified to incorporate the B-1B avionics modifications until the test program required by subsection (b) is completed.

(4) The Secretary may modify the avionics systems of the first 19 B-1B production aircraft to bring those aircraft to the current avionics configuration of the balance of the B-1B fleet.

(d) BIMONTHLY STATUS REPORTS.—(1) The Secretary of Defense shall submit to the congressional defense committees a report every two months with respect to the test program under subsection (b). Each such report shall indicate whether the tests scheduled in the test plan to be carried out after the date of the submission of the preceding report under this subsection—

(A) have been carried out as scheduled and otherwise in accordance with the test plan; and

(B) whether, in the case of each such test, the test was successful, partially successful, or unsuccessful.

(2) The Secretary shall include in each such report an assessment of the capability of the B-1B aircraft to meet—

(A) performance objectives;

(B) technical and fiscal objectives; and

(C) significant test milestones.

(3) The first such bimonthly report shall be submitted February 1, 1990. The requirement for the submission of such reports shall cease to apply when the test program required by this section is completed.

(e) INDEPENDENT ASSESSMENT BY OUTSIDE PANEL.—(1) Following completion of the test program under subsection (b)(1), the Secretary of Defense shall provide for an independent assessment of the capabilities of the B-1B aircraft to penetrate air defenses of the Soviet Union. The Secretary shall appoint a panel of experts from the private sector to conduct the assessment and shall provide the panel with such resources as are necessary, including technical assistance by private contractors, to assist the panel in conducting the assessment. Individuals appointed to the panel shall be independent of the Air Force and shall have no arrangements with the Air Force that would constitute a conflict of interest.

(2) The panel—

(A) shall assess the air defense capabilities of the test aircraft referred to in subsection (c) after they have been modified with the B-1B avionics modifications; and

(B) on the basis of that assessment, shall determine what the air defense penetration capabilities of the entire fleet of such aircraft would be in all of its mission profiles if every aircraft in the fleet were so modified.

(3) The panel shall estimate the air defense penetration capabilities of the B-1B aircraft against the threats described—

(A) in the 1981 joint Office of the Secretary of Defense/Air Force Bomber Alternatives Study;

(B) in the 1986 Strategic Bomber Force Study; and

(C) in the most current threat baseline established by the intelligence community for estimated Soviet air defenses in the late 1990s.

(4) The Secretary of Defense shall ensure that individuals serving on the panel receive the full cooperation of all components of the Department of Defense in carrying out the functions of the panel under this section.

Reports

(5) The Secretary shall submit to the congressional defense committees the report of the panel not more than 180 days after the conclusion of the test program referred to in subsection (b).

(f) FUNDING OF B-1B AVIONICS MODIFICATIONS.—(1) Subject to the limitation in paragraph (2), the Secretary may use expired or lapsed funds—

(A) to carry out the B-1B avionics modifications and the testing program established in subsections (b) and (c); and

(B) upon completion of such testing program, to carry out the B-1B avionics modifications on the remainder of the unmodified B-1B aircraft.

(2) The amount of expired or lapsed funds used for any purpose related to development, procurement, modification, or repair of B-1B aircraft (including such amounts of expired or lapsed funds as have been applied to the B-1B program before the enactment of this Act) may not exceed $527,100,000.

(3) The use of expired or lapsed funds for the purposes described in paragraph (1) is subject to section 2782 of title 10, United States Code (as added by section 1603 of this Act).

(4) Funds for the B-1B recovery program for purposes other than those stated in paragraph (1), or for such purposes but in excess of the limitation under paragraph (3), may be provided only by law through the authorization and appropriation process.

(5) For purposes of this subsection, the term "expired or lapsed funds" means funds previously appropriated to the Air Force the availability of which for obligation has expired or lapsed.

(g) ACCESS BY GAO.—(1) The Secretary of Defense shall ensure that the General Accounting Office has full, direct, and timely access to the documentation relating to the recovery program (including test data and results).

(2) The Comptroller General of the United States shall actively monitor the recovery program and shall provide periodic reports to the congressional defense committees on the status and effectiveness of the program.

SEC. 122. ADVANCED CRUISE MISSILE PROGRAM

Funds appropriated or otherwise made available to the Air Force for fiscal year 1990 may not be obligated or expended for procurement of missiles under the Advanced Cruise Missile program until—

(1) there have been at least 10 successful developmental test flights of the Advanced Cruise Missile; and

(2) the Secretary of Defense certifies to the congressional defense committees that since June 1, 1989, a minimum of four flight tests of the Advanced Cruise Missile have been conducted and that, of those tests, the percentage which were successful is significantly greater than 50 percent.

SEC. 123. CAP ON NUMBER OF MX MISSILES THAT MAY BE DEPLOYED

The number of MX missiles deployed at any time may not exceed 50.

SEC. 124. REFERENCE TO LIMITATION ON OBLIGATION OF FUNDS FOR MX RAIL GARRISON PROGRAM

Limitations with respect to the obligation of funds for advance procurement of long-lead items and initial spare parts for the MX Rail Garrison program are set forth in section 231.

PART D—PROGRAM TERMINATIONS

SEC. 131. F-14 AIRCRAFT PROGRAM

(a) IN GENERAL.—(1) The Secretary of Defense shall terminate new production of F-14 aircraft in accordance with this section.

(2) Except as provided in subsection (b), funds appropriated or otherwise made available to the Department of Defense pursuant to this or any other Act may not be obligated for the procurement of F-14 aircraft.

(b) EXCEPTIONS.—(1) Subject to subsection (c), the prohibition in subsection (a)(2) does not apply to—

(A) the modification of, or the acquisition of spare or repair parts for, F-14 aircraft described in paragraph (2);

(B) completion of the new production aircraft described in paragraph (2)(B); and

(C) the obligation of not more than $1,175,336,000 from funds made available pursuant to section 102(a) for the procurement of not more than 18 new production F-14 aircraft and for payment of costs necessary to terminate the F-14 aircraft program.

(2) The F-14 aircraft referred to in paragraph (1)(A) are—

(A) F-14 aircraft acquired by the Navy on or before the date of enactment of this Act;

(B) F-14 new production aircraft for which funds, other than funds for the procurement of long lead items and other advance procurement, were obligated before the date of enactment of this Act and which are delivered to the Navy on or after that date; and

(C) eighteen F-14 new production aircraft for which funds are available pursuant to section 102(a).

(c) CONTRACT PROVISIONS.—(1) Funds appropriated or otherwise made available to the Department of Defense under this or any other Act may not be obligated for modification of, or the acquisition of spare or repair parts for, the F-14 aircraft until the Secretary of Defense certifies to the congressional defense committees that the

Navy and the prime contractor have entered into a contract that includes a specific prohibition on the use of any funds made available under the contract for new production of any aircraft other than new production aircraft referred to in subparagraph (B) or (C) of subsection (b)(2).

(2) Funds referred to in paragraph (1) may not be obligated for F-14 new production aircraft until the Secretary of Defense certifies to the congressional defense committees that the Navy and the prime contractor have entered into a contract that includes the following provisions:

(A) A provision for the termination of the F-14 program and a provision providing that all termination activities be completed according to a schedule specified in the contract.

(B) A specific prohibition on the use of funds made available under the contract for new production of any aircraft other than new production aircraft referred to in subparagraphs (B) and (C) of subsection (b)(2).

(C) A provision providing that each aspect of the F-14 new production aircraft program be terminated as soon as the Navy determines that continuation of that aspect of the program is no longer necessary for—

(i) completion of new production aircraft referred to in subparagraphs (B) and (C) of subsection (b)(2); or

(ii) modification of, or production of spare or repair parts for, the F-14 aircraft.

(D) A provision providing that the termination schedule specifically require the prime contractor to disassemble, transfer to the United States, or otherwise dispose of all special tooling, test equipment, and technical data of the prime contractor and subcontractors relating to the F-14 aircraft, except for such items as are determined by the Navy to be necessary for the modification or operation and maintenance of F-14 aircraft referred to in subsection (b).

(E) A provision providing that all termination activities are to be completed not later than the date of delivery to the Navy of the last new production aircraft referred to in subsection (b)(1)(C).

SEC. 132. AH-64 HELICOPTER PROGRAM

(a) IN GENERAL.—(1) The Secretary of Defense shall terminate new production of AH-64 aircraft in accordance with this section.

(2) Except as provided in subsection (b), funds appropriated or otherwise made available to the Department of Defense pursuant to this or any other Act may not be obligated for the procurement of AH-64 aircraft.

(b) EXCEPTIONS.—(1) The prohibition in subsection (a)(2) does not apply to—

(A) the modification of, or the acquisition of spare or repair parts for, AH-64 aircraft described in paragraph (2);

(B) completion of the new production aircraft described in paragraph (2)(B); and

(C) the obligation of not more than $1,487,527,000 from funds made available for fiscal years 1990 and 1991 for not more than 132 new production AH-64 aircraft and for payment of costs necessary to terminate the AH-64 aircraft program.

(2) The AH-64 aircraft referred to in paragraph (1)(A) are—

(A) AH-64 aircraft acquired by the Army on or before the date of enactment of this Act;

(B) AH-64 new production aircraft for which funds, other than funds for the procurement of long lead items and other advance procurement, were obligated before the date of enactment of this Act and which are delivered to the Army on or after that date; and

(C) 132 new production AH-64 aircraft for which funds are available in accordance with subsection (b)(1)(C).

SEC. 133. AHIP SCOUT AIRCRAFT PROGRAM

(a) IN GENERAL.—(1) The Secretary of Defense shall terminate the AHIP Scout aircraft program in accordance with this section.

(2) Except as provided in subsection (b), funds appropriated or otherwise made available to the Department of Defense pursuant to this or any other Act may not be obligated for the procurement of AHIP Scout aircraft (OH-58 aircraft modified into the configuration specified in the Army Helicopter Improvement Program described in the Selected Acquisition Report, dated December 31, 1988, relating to the OH-58 helicopter).

(b) EXCEPTIONS.—(1) Subject to subsection (c), the prohibition in subsection (a)(2) does not apply to—

(A) the modification of, or the acquisition of spare or repair parts for, AHIP Scout aircraft described in paragraph (2);

(B) completion of the installation of AHIP modification kits in the AHIP Scout aircraft described in paragraph (2)(B); and

(C) the obligation of not more than $195,000,000 from funds made available pursuant to section 101(a) for the procurement and installation of AHIP modification kits in not more than 36 AHIP Scout aircraft and for payment of costs necessary to terminate the AHIP Scout aircraft program.

(2) The AHIP Scout aircraft referred to in paragraph (1)(A) are—

(A) AHIP Scout aircraft acquired by the Army on or before the date of enactment of this Act;

(B) AHIP Scout aircraft for which funds, other than funds for the procurement of long lead items and other advance procurement, were obligated before the date of enactment of this Act and which are delivered to the Army on or after that date; and

(C) 36 AHIP Scout aircraft for which funds are available in accordance with subsection (b)(1)(C).

SEC. 134. F-15E AIRCRAFT PROGRAM

(a) IN GENERAL.—(1) The Secretary of Defense shall terminate new production of F-15E aircraft in accordance with this section.

(2) Except as provided in subsection (b), funds appropriated or otherwise made available to the Department of Defense pursuant to this or any other Act may not be obligated for the procurement of F-15E aircraft.

(b) EXCEPTIONS.—(1) The prohibition in subsection (a) does not apply to the obligation of funds for—

(A) the completion of, the modification of, or the acquisition of spare or repair parts for, F-15E aircraft described in paragraph (2); or

(B) the payment of costs necessary to terminate the F-15E aircraft program.

(2) The F-15E aircraft referred to in paragraph (1)(A) are F-15E aircraft—

(A) that are acquired by the Air Force before October 1, 1991; or

(B) for which funds have been obligated for procurement before October 1, 1991, other than for the procurement of long lead items and other advance procurement.

SEC. 135. M88A2 RECOVERY VEHICLE PROGRAM

(a) IN GENERAL.—(1) The Secretary of Defense shall terminate new production of M88A2 recovery vehicles in accordance with this section.

(2) Except as provided in subsection (b), funds appropriated or otherwise made available to the Department of Defense pursuant to this or any other Act may not be obligated for the procurement of M88A2 recovery vehicles.

(b) EXCEPTIONS.—(1) The prohibition in subsection (a) does not apply to the obligation of funds for—

(A) the completion of, the modification of, or the acquisition of spare or repair parts for, M88A2 recovery vehicles described in paragraph (2); or

(B) the payment of costs necessary to terminate the M88A2 recovery vehicle program.

(2) The M88A2 recovery vehicles referred to in paragraph (1)(A) are M88A2 recovery vehicles—

(A) that were acquired by the Army before the date of enactment of this Act; or

(B) for which funds have been obligated for procurement before the date of the enactment of this Act, other than for the procurement of long lead items and other advance procurement.

SEC. 136. RECONNAISSANCE AIRCRAFT PROGRAMS

The Secretary of Defense shall terminate the SR-71 reconnaissance aircraft program and the classified airborne reconnaissance program as discussed in the classified annex to the joint statement of managers to accompany the conference report on H.R. 2461 of the One Hundred First Congress.

SEC. 137. STATUTORY CONSTRUCTION

A provision of law enacted after the date of the enactment of this Act may not be construed as modifying or superseding any provision of any of sections 131 through 136 unless that provision specifically refers to such section and specifically states that such provision of law modifies or supersedes such section.

PART E—ARMY PROGRAMS

SEC. 141. M-1 TANK PROGRAM

(a) DETROIT ARMY TANK PLANT.—None of the funds appropriated for the Army for fiscal year 1990 may be obligated to begin the inactivation or deactivation of the Detroit Army Tank Plant.

Reports.

(b) BLOCK II MODIFICATION PROGRAM.—Funds appropriated for the Army for fiscal year 1990 may not be obligated for long-lead items and nonrecurring costs for the Block II modification program for the M-1 tank until the Secretary of the Army submits to the Committees on Armed Services of the Senate and House of Representatives a report with respect to the program as described in subsection (c).

(c) REPORT ON BLOCK II PROGRAM.—A report under subsection (b) shall—

(1) identify the total funding requirements for the Block II program;

(2) assess the proposed modifications under the program in terms of the results of the live-fire testing;

(3) describe operational implications of the weight increase for the M-1 tank under the proposed modifications;

(4) identify decisions in the program that have an effect on the next generation tank; and

(5) evaluate the overall cost effectiveness of the Block II modification program.

SEC. 142. RESTRICTION ON FISCAL YEAR 1989 FUNDS FOR REFUELERS/TANKERS

Of the funds appropriated or otherwise made available to the Army for fiscal year 1989, not more than $29,000,000 may be available for purposes of procuring and installing 480 tanker/refueler kits on pallets for use by heavy trucks configured with the palletized loading system.

SEC. 143. ARMY RECOVERY VEHICLE PROGRAM

(a) TESTING.—The Secretary of the Army—

(1) shall complete the technical and operational testing of the Army Improved Recovery Vehicle; and

(2) shall study all potential modifications to the existing chassis for the M-88 vehicle to perform the mission for the Improved Recovery Vehicle.

(b) CONDITIONS ON PRODUCTION DECISION.—The Secretary of the Army may not make a decision to enter into production during fiscal year 1990 or 1991 for a recovery vehicle for the Army until each of the following occurs:

(1) Operational testing of the vehicle to be produced is completed.

(2) The Director of Operational Test and Evaluation certifies to the Secretary of the Army that the vehicle meets performance requirements of the Army.

(3) The Secretary of the Army completes—

(A) an analysis of the cost-effectiveness of the vehicle that supports the proposed production decision; and

(B) an analysis of the cost-effectiveness of a service life extension program for the existing recovery vehicle.

SEC. 144. REPEAL OF PROCUREMENT REQUIREMENT AND LIMITATION OF FUNDS FOR THE HEAVY EXPANDED MOBILITY TACTICAL TRUCK

Section 129 of the National Defense Authorization Act for Fiscal Years 1988 and 1989 (Public Law 100-180; 101 Stat. 1045) is repealed.

SEC. 145. LIMITATION ON MODIFICATIONS OF CERTAIN SPECIAL OPERATIONS FORCES AIRCRAFT

(a) LIMITATION.—Funds appropriated for fiscal year 1990 for procurement of aircraft for the Army may not be obligated or expended for modifications for MH-60K and MH-47 helicopters until the Secretary of the Army certifies in writing to the congressional defense committees that the cost of any modification, correction of deficiencies, or retrofit that is required for such aircraft to

meet established contract specifications and overall system performance requirements will not be borne by the Government.

Reports.

(b) WAIVER.—(1) If the Secretary is unable to make the certification described in subsection (a), the Secretary shall submit to the congressional defense committees a report on the nature and extent of any prospective Government risk with respect to the costs of modifications, corrections, and deficiencies referred to in that subsection. In the report, the Secretary—

(A) shall set forth the type and degree of risk with respect to the affected major subsystem of each of the two aircraft; and

(B) shall specify the contractual agreements for any such areas of risk by affected major subsystem for each aircraft.

(2) Upon the receipt of a report under paragraph (1), the limitation in subsection (a) shall cease to apply.

SEC. 146. LIMITATION ON ACCEPTANCE OF DELIVERY OF STINGER MISSILES

The Secretary of the Army may not accept delivery of Stinger missiles that do not conform to all existing performance requirements unless the Secretary certifies in writing to the congressional defense committees that the contractor is contractually responsible to modify or retrofit delivered missiles in order to meet all performance specifications existing as of the time of delivery at no cost to the Government.

SEC. 147. M109 HOWITZER IMPROVEMENT PROGRAM

The Secretary of the Army may not obligate fiscal year 1990 funds for the M109 Howitzer Improvement Program until—

(1) the Secretary certifies to the congressional defense committees that the Army Acquisition Executive has approved the baseline acquisition program for the Howitzer Improvement Program that is consistent with the current five-year defense program;

Reports.

(2) the Secretary submits that baseline report to Congress; and

Reports.

(3) the Secretary submits to the committees a report on a design for a follow-on operational test of the howitzer and the degree to which the operational and organizational concept for the howitzer will be validated by that test.

SEC. 148. EQUAL EMPLOYMENT OPPORTUNITIES RELATING TO AN ARMY CONTRACT

Funds appropriated for procurement of aircraft for the Army for fiscal year 1990 may not be obligated for the procurement of C-23 Sherpa aircraft unless the Secretary of the Army secures a commitment from the contractor that it will support equal employment opportunities in its employment practices for all individuals irrespective of race, color, religion, sex, or national origin.

PART F—NAVY PROGRAMS

SEC. 151. LIMITATION ON PROCUREMENT OF V-22 OSPREY AIRCRAFT

(a) PROHIBITION.—None of the funds appropriated for fiscal year 1990 or otherwise made available to the Department of Defense for fiscal year 1990 pursuant to this Act or any Act enacted after this Act may be obligated for procurement of V-22 aircraft.

(b) STATUTORY CONSTRUCTION.—A provision of law enacted after the date of the enactment of this Act may not be construed as modifying or superseding any provision of this section unless that provision specifically refers to such section and specifically states that such provision of law modifies or supersedes such section.

SEC. 152. PRESERVATION OF DUAL-SOURCE PRODUCTION BASE FOR STANDARD MISSILE II

The Secretary of the Navy shall carry out the fiscal year 1990 acquisition for the Standard Missile II so as to preserve the existing dual-source production base for that missile.

SEC. 153. ANNUAL REPORT ON NAVY AIRCRAFT REQUIREMENTS

(a) ANNUAL REPORT REQUIREMENT.—(1) Chapter 635 of title 10, United States Code, is amended by adding at the end the following new section:

"§ 7345. Navy aircraft requirements: annual report

"(a) Not later than September 1 of each year, the Secretary of the Navy shall submit to the Committees on Armed Services and the Committees on Appropriations of the Senate and House of Representatives a report addressing the current and projected aircraft requirements of the Navy and the plans of the Navy for aircraft acquisition and modernization.

"(b) Each such report shall cover at least the next 10 years and shall specify the following:

"(1) The number of aircraft, by type, required to fully equip the current and projected force structure of the Navy and the Marine Corps.

"(2) The current and projected inventory of each type of aircraft.

"(3) The current average age of (A) all Navy and Marine Corps aircraft, (B) all Navy and Marine Corps combat aircraft, and (C) all carrier-based combat aircraft.

"(4) A list of planned and programmed aircraft acquisition programs and major aircraft modernization programs, specifying (A) the approximate numbers of aircraft involved in each program, (B) the estimated fiscal year in which each program will begin and end, and (C) the estimated total cost for each program.".

(2) The table of sections at the beginning of such chapter is amended by adding at the end the following new item:

"7345. Navy aircraft requirements: annual report.".

(b) INITIAL REPORT.—Not later than February 1, 1990, the Secretary of the Navy shall submit to the congressional defense committees a report containing the information specified in section 7345 of title 10, United States Code, as added by subsection (a). 10 USC 7345 note.

SEC. 154. FAST SEALIFT SHIP PROGRAM

(a) PROGRAM.—The Secretary of Defense is authorized to establish a fast sealift ship program.

(b) REPORT.—The Secretary of the Navy may not obligate funds for procurement of ships for the fast sealift ship program until 30 days after the date on which the Secretary submits to the Committees on Armed Services of the Senate and House of Representatives a comprehensive report on the design characteristics for those ships. The report shall describe in detail the multimission capability of the

ships and shall specify the operational concept for the use of those ships in contingencies requiring sealift and in routine fleet operations.

SEC. 155. TRANSFER OF A-6 AIRCRAFT TO THE NAVY

The Secretary of the Navy shall transfer all Marine Corps A-6 Intruder aircraft from the Marine Corps to the Navy not later than September 30, 1994.

SEC. 156. REPORT REGARDING TRIDENT SUBMARINE CONSTRUCTION RATE

(a) REPORT REQUIREMENT.—The Secretary of Defense shall submit to the Committees on Armed Services of the Senate and House of Representatives a written report, in both a classified and unclassified version, evaluating the practicality and desirability of reducing the rate at which Trident submarines are procured.

(b) PREPARATION AND CONTENT.—In preparing the report required by subsection (a), the Secretary shall consider alternative construction rates for the Trident submarine, each of which shall provide for a construction rate slower than one ship per year. The Secretary shall include in the report with respect to each such alternative rate—

(1) an evaluation of the effect of the alternative rate on—

(A) the availability and capability of the Trident submarine to perform the mission assigned to it; and

(B) the level and stability of the work force in the naval shipbuilding industry; and

(2) a discussion of the practicality and desirability of accelerating the procurement of other vessels for the Navy with funds saved by using the alternative rate.

(c) TIME FOR SUBMISSION.—The report required by subsection (a) shall be submitted concurrently with the submission of the budget for fiscal year 1991 to Congress pursuant to section 1105 of title 31, United States Code.

PART G—NONSTRATEGIC AIR FORCE PROGRAMS

SEC. 161. MC-130H (COMBAT TALON) AIRCRAFT PROGRAM

(a) REQUIRED CERTIFICATION.—Funds appropriated pursuant to this Act may not be obligated for the payment of an award fee and the procurement of contractor-furnished equipment for the MC-130H Combat Talon aircraft until the Director of Operational Test and Evaluation determines (and certifies under subsection (c)) that the results of qualification test and evaluation and of qualification operational test and evaluation demonstrate that such aircraft is capable of performing terrain following/terrain avoidance flight profiles as prescribed in the approved test and evaluation master plan for the Combat Talon II program dated September 1988.

(b) LIMITATION ON PRODUCTION OPTION FOR AVIONICS INTEGRATION.—If the certification under subsection (a) is made after April 30, 1990, the Secretary of the Air Force may not incur any costs to the Government when the Secretary executes the production option for avionics integration for the MC-130H program for fiscal year 1990 in excess of the costs that the Secretary would have incurred for such purpose in April 1990.

(c) SUBMISSION OF CERTIFICATION.—A certification under subsection (a) shall be submitted in writing to the congressional defense committees.

SEC. 162. AC-130U GUNSHIP PROGRAM

No funds may be obligated after the date of the enactment of this Act for procurement of AC-130U Gunship aircraft until the Secretary of the Air Force certifies in writing to the congressional defense committees that the cost of any modification, correction of deficiencies, or retrofit that is required to address and to meet established contract specifications and performance requirements for AC-130U Gunship aircraft procured using funds appropriated for the Department of Defense for fiscal year 1988 or fiscal year 1989 will be borne by the prime contractor or an appropriate subcontractor.

SEC. 163. AMRAAM MISSILE PROGRAM

(a) LIMITATION ON FUNDING.—No funds may be obligated to undertake full-rate production of the Advanced Medium-Range Air-to-Air (AMRAAM) missile until the Director of Operational Test and Evaluation (pursuant to section 138 of title 10, United States Code) certifies to the congressional defense committees that—

(1) all required testing for making the decision to proceed to full-rate production (as prescribed pursuant to the June 16, 1987 Department of Defense-approved AMRAAM Test and Evaluation Master Plan) has been conducted; and

(2) the results of that testing demonstrate that (A) the AMRAAM missile has met all established performance requirements, and (B) stable missile production design and configuration (including its software) have been established.

(b) FULL-RATE PRODUCTION DEFINED.—For purposes of subsection (a), full-rate production of the AMRAAM missile is production of that missile at a rate that exceeds 900 production-configured missiles per year.

(c) PRESERVATION OF PRODUCTION CAPABILITY OF OTHER MISSILES.—During the period beginning on the date of the enactment of this Act and ending on the date on which the certification required by subsection (a) is made, the Secretary of Defense shall ensure that production capability for the AIM-7F/M Sparrow and the AIM-9L/M Sidewinder missiles is maintained.

SEC. 164. OVER-THE-HORIZON BACKSCATTER RADAR

(a) REQUIREMENTS.—None of the funds appropriated or otherwise made available to the Air Force for fiscal year 1990 may be obligated for acquisition of land for the Central System of the Over-the-Horizon Backscatter (OTH-B) radar program.

(b) ALASKAN SYSTEM.—(1) With respect to acquisition of that portion of the OTH-B radar program known as the Alaskan System, the Secretary of the Air Force—

(A) shall enter into a type of contract known as a "fixed-price incentive (firm target) contract" or a "fixed-price incentive (successive target) contract" (or a similar type of contract that encourages maximum cost reduction) for the first sector of the system with funds appropriated for fiscal years 1989 and 1990; and

(B) shall include in that contract a priced option for the second sector of such system.

(2) The total value of the ceiling price of that contract for the first and second sectors of that system may not exceed $530,000,000.

(3) The contract entered into pursuant to paragraph (1) shall provide for all of the prime-mission equipment, software, construction, site activation activities, and required system capabilities for that system.

(c) REPORT BY THE SECRETARY OF DEFENSE.—No funds may be obligated for the Alaskan System referred to in subsection (b) until the Secretary of Defense submits to the congressional defense committees a report on the results of development test and evaluation of the East Coast System, including the results of integrated three-sector tests.

(d) REPORT BY DIRECTOR OF OT&E.—The Director of Operational Test and Evaluation of the Department of Defense shall submit to the congressional defense committees a report certifying whether the test results of the integrated initial operational evaluation conducted with the three East Coast System sectors of the OTH-B radar system demonstrate that the East Coast System sectors meet all contract requirements and performance specifications relevant to operational test and evaluation, including any specifications for the system relating to small target detection capability. The report shall be submitted not later than September 1, 1990.

Communications and telecommunications.

SEC. 165. MILSTAR PROGRAM

(a) INFORMATION TO BE SUBMITTED TO CONGRESS.—Not later than 180 days after the date of the enactment of this Act, the Secretary of Defense shall submit to the congressional defense committees the following with respect to the Military Satellite and Terminal Relay (MILSTAR) system:

Reports.

(1) A Selected Acquisition Report on the total program.

(2) A comprehensive master plan for the MILSTAR program setting forth—

(A) the MILSTAR program requirements;

(B) the Department of Defense acquisition strategy for the program; and

(C) Department of Defense plans relating to program execution, program schedule, program management, and program architecture.

(3) An analysis of the feasibility of establishing a cost sharing plan among all potential users of the MILSTAR system.

(b) LIMITATION ON PROCEEDING WITH PROGRAM.—(1) Funds appropriated or otherwise available to the Department of Defense may not be obligated for the MILSTAR program after April 1, 1990, unless the Secretary of Defense certifies to the congressional defense committees that the Department of Defense has complied with all conditions for the MILSTAR program specified in the classified annex to the joint statement of managers accompanying the conference report on the bill H.R. 2461 of the Hundred First Congress.

(2) Until the congressional defense committees receive all of the matters referred to in subsection (a), the Secretary of Defense may not obligate more than 75 percent of the funds appropriated pursuant to this Act for the MILSTAR program (other than for satellite communications ship terminals, satellite communications shore terminals, and extremely high frequency satellite communications).

SEC. 166. LIMITATION ON FUNDS FOR PROCUREMENT OF F-16 AIRCRAFT PENDING APPROVAL OF CERTAIN PLANS RESPECTING AIR-LAND FIRE SUPPORT FOR GROUND COMBAT FORCES

(a) LIMITATION ON EXPENDITURES FOR F-16 AIRCRAFT.—If by April 1, 1990, the Secretary of Defense does not submit to the congresssional defense committees a report in writing containing a certification described in subsection (b), then after that date funds appropriated pursuant to this Act may not be expended for the procurement of F-16 aircraft until such a report is submitted to those committees. Reports.

(b) CERTIFICATION.—A certification referred to in subsection (a) is a certification by the Secretary of Defense of both of the following:

(1) That the Director of Operational Test and Evaluation of the Department of Defense—

(A) has approved a test plan for the evaluation of systems for providing air-land fire support for ground combat forces systems that is sufficiently flexible to allow for evaluation of any current system and any feasible future system for such purpose; and

(B) has approved a test plan for the evaluation of both the upgrade program proposed for the F-16 aircraft and the upgrade program proposed for the A-10 aircraft for close air support (including night time operations).

(2) That any fixed-wing aircraft operated after July 1, 1990, at the National Training Center at Fort Irwin, California, will be fully integrated into the range instrumentation system to the same extent as attack helicopters. California.

PART H—CHEMICAL MUNITIONS

SEC. 171. RESTRICTION ON OBLIGATION OF FUNDS FOR PROCUREMENT OF BINARY CHEMICAL MUNITIONS

(a) 155-MILLIMETER BINARY CHEMICAL MUNITIONS.—None of the funds appropriated or otherwise made available for fiscal year 1990 for procurement of ammunition for the Army may be used for production of 155-millimeter binary chemical munition M687 projectiles until—

(1) the Secretary of the Army submits to the congressional defense committees a certification described in subsection (b); and

(2) a period of two weeks elapses after the date on which such certification is received.

(b) REQUIRED CERTIFICATION.—A certification by the Secretary of the Army under subsection (a) must state—

(1) that, based on deliveries of M20 plastic, M20 steel, and M21 components of the M687 projectile accepted by the Government from the incumbent contractor—

(A) the incumbent contractor has demonstrated monthly delivery rates of those components sufficient to eliminate before October 1, 1990, the production backlog of all those components for the M687 rounds authorized for production for fiscal years 1986, 1987, and 1988;

(B) the components and rounds for which delivery has been accepted conform to the contract specifications at the time that the Government entered into the contract; and

(C) the incumbent contractor has sustained those monthly delivery rates for such components for a period of not less than three consecutive months; and

Arkansas.

(2) that the new production lines at Pine Bluff Arsenal, Arkansas, for the production of chemicals for the M687 projectile have been proven out and the Secretary of the Army has formally accepted the facility housing those production lines.

(c) MONTHLY GAO REPORTS.—Not later than February 1, 1990, and not later than the first day of each month thereafter, the Comptroller General of the United States shall submit to the congressional defense committees a report on the previous month's production rate for the M20 plastic, M20 steel, and M21 components of the M687 projectile and on the status of the production backlog for fiscal years 1986, 1987, and 1988 for those components. The Comptroller General shall continue submitting such reports until he certifies to those committees either that the production backlog for those components has been eliminated or that production of the components has been terminated.

Reports.

(d) FINAL GAO CERTIFICATION.—Not later than two weeks after a certification is submitted under subsection (a), the Comptroller General of the United States shall submit to the congressional defense committees a report containing the Comptroller General's assessment of whether the monthly delivery rates referred to in subsection (b)(1) demonstrate that there are reasonable grounds to believe that the incumbent contractor will continue to deliver at those monthly rates in order to eliminate the backlog of deliveries by October 1, 1990.

(e) EXCEPTION FOR CERTAIN LONG-LEAD MATERIALS.—The limitation in subsection (a) shall not apply with respect to the obligation of funds (not in excess of $2,000,000) for long-term lead materials to support procurement of plastics for cannister production for the M687 projectile.

SEC. 172. CHEMICAL MUNITIONS EUROPEAN RETROGRADE PROGRAM

(a) LIMITATIONS ON RETROGRADE PROGRAM.—The Secretary of Defense may not obligate any funds appropriated for fiscal year 1990 for the purpose of carrying out the chemical munitions European retrograde program involving the withdrawal from Europe of chemical munitions until each of the following occurs:

(1) The Secretary submits to the Committees on Armed Services of the Senate and House of Representatives a certification—

(A) that an adequate United States binary chemical munitions stockpile will exist before any withdrawal of the existing stockpile from its present location in Europe is carried out; and

(B) that the plan for such retrograde program is based on—

(i) minimum technical risk;

(ii) minimum operational risk; and

(iii) maximum safety to the public.

(2) The Secretary submits to those committees a revised concept plan for such retrograde program that includes a description of—

(A) the full budgetary effect of the retrograde program; and

(B) the potential effect of the retrograde program on the chemical demilitarization program.

(b) LIMITATION ON TRANSFER OF FUNDS.—The Secretary of Defense may not transfer any funds from the chemical demilitarization emergency response program for the retrograde program referred to in subsection (a).

SEC. 173. CHEMICAL DEMILITARIZATION CRYOFRACTURE PROGRAM

(a) PROGRAM.—The Secretary of Defense, to the extent funds are available for the purpose, shall proceed as expeditiously as possible with the project to develop an operational cryofracture facility at the Tooele Army Depot, Utah. Utah.

(b) USE OF FISCAL YEAR 1989 FUNDS.—Of the amount authorized and appropriated for fiscal year 1989 for the chemical demilitarization program, $16,300,000 shall be obligated immediately for continued research and development testing of the cryofracture program.

TITLE II—RESEARCH, DEVELOPMENT, TEST, AND EVALUATION

Science and technology.

PART A—AUTHORIZATIONS

SEC. 201. AUTHORIZATION OF APPROPRIATIONS

(a) FISCAL YEAR 1990.—Funds are hereby authorized to be appropriated for fiscal year 1990 for the use of the Armed Forces for research, development, test, and evaluation as follows:

(1) For the Army, $5,666,210,000.
(2) For the Navy, $9,901,897,000.
(3) For the Air Force, $13,938,679,000.
(4) For the Defense Agencies, $8,436,986,000, of which—
  (A) $211,200,000 is authorized for the activities of the Deputy Director, Defense Research and Engineering (Test and Evaluation); and
  (B) $67,085,000 is authorized for the Director of Operational Test and Evaluation.

(b) FISCAL YEAR 1991.—Funds are hereby authorized to be appropriated for fiscal year 1991 for the use of the Armed Forces for research, development, test, and evaluation as follows:

(1) For the Army, $5,791,042,000.
(2) For the Navy, $8,414,683,000.
(3) For the Air Force, $11,305,240,000.
(4) For the Defense Agencies, $4,264,161,000, of which—
  (A) $150,734,000 is authorized for the activities of the Deputy Director, Defense Research and Engineering (Test and Evaluation); and
  (B) $25,834,000 is authorized for the Director of Operational Test and Evaluation.

SEC. 202. AMOUNTS FOR BASIC RESEARCH AND EXPLORATORY DEVELOPMENT FOR FISCAL YEARS 1990 AND 1991

(a) FISCAL YEAR 1990.—Of the amounts authorized to be appropriated pursuant to section 201 for fiscal year 1990, $3,510,196,000 shall be available for basic research and exploratory development projects.

(b) FISCAL YEAR 1991.—Of the amounts appropriated pursuant to section 201 for fiscal year 1991, $3,770,000,000, shall be available for basic research and exploratory development projects.

(c) BASIC RESEARCH AND EXPLORATORY DEVELOPMENT DEFINED.—For purposes of this section, the term "basic research and exploratory development" means work funded in program elements for defense research and development under Department of Defense category 6.1 or 6.2.

SEC. 203. AMOUNTS FOR IMPROVED INFANTRY EQUIPMENT

Of the amounts authorized to be appropriated pursuant to section 201 for fiscal year 1990, amounts shall be available to increase the effectiveness of small infantry units through the development of improved weapons and equipment as follows:

For the Army, $18,000,000.

For the Marine Corps, $12,000,000.

PART B—PROGRAM REQUIREMENTS, RESTRICTIONS, AND LIMITATIONS

SEC. 211. BALANCED TECHNOLOGY INITIATIVE

(a) AMOUNTS AUTHORIZED.—Of the amounts authorized to be appropriated pursuant to section 201 for fiscal year 1990, $238,082,000 shall be available for research and development under the Balanced Technology Initiative program.

(b) DETERMINATION OF SOURCE OF FUNDS.—The Secretary of Defense shall determine the amount of funds appropriated to the Army, Navy, Air Force, and Defense Agencies pursuant to section 201 for fiscal year 1990 that are to be allocated for the Balanced Technology Initiative.

(c) PROHIBITION REGARDING UNDISTRIBUTED REDUCTIONS.—No portion of any undistributed reduction (under this Act or any other Act) may be applied against the funds specified in subsection (a) or against any funds made available for the Balanced Technology Initiative for fiscal year 1990 that are in addition to the amount specified in subsection (a).

(d) PROHIBITION ON USE OF FUNDS FOR SDI.—None of the funds made available for the Balanced Technology Initiative by subsection (a) may be used in connection with any program, project, or activity in support of the Strategic Defense Initiative.

(e) ANNUAL REPORT.—Not later than March 15 of each year, the Secretary of Defense shall submit to the congressional defense committees a report on the Balanced Technology Initiative and related matters. Each such report shall include the following:

(1) A current assessment of the extent to which advanced technologies can be used to exploit potential vulnerabilities of hostile threats to the national security of the United States.

(2) Identification of each program, project, and activity being pursued under the Balanced Technology Initiative and, with respect to each such program, project, and activity, the amount made available pursuant to this section and the source of such amount.

(3) For each program, project, and activity for which funds are made available pursuant to this section, a five-year funding plan that (A) provides for the allocation of sufficient resources to maintain adequate progress in research and development under such program, project, or activity, and (B) specifies the major programmatic and technical milestones and the schedule for achieving those milestones.

(4) The status of each program, project, and activity being pursued under the Balanced Technology Initiative.

(5) Identification of other on-going or potential research and development programs, projects, and activities not currently provided for under this section that should be considered for inclusion under the Balanced Technology Initiative in order to improve conventional defense capabilities.

(6) Identification of the most critical technologies for the successful development of existing or potential Balanced Technology Initiative programs, projects, and activities and an assessment of the current status of those technologies.

SEC. 212. INTEGRATED ELECTRIC DRIVE PROGRAM

(a) INTEGRATED ELECTRIC DRIVE PROGRAM.—The Secretary of the Navy is authorized to establish an Integrated Electric Drive program by merging the Ship Propulsion System program and the Shipboard System Component program with the Electric Drive program for the purpose of providing Integrated Electric Drive propulsion in the DDG–51 guided missile destroyer program.

(b) FUNDING.—Of the amount authorized to be appropriated pursuant to section 201 for the Navy for fiscal year 1990, $36,064,000 shall be available for the Integrated Electric Drive program.

SEC. 213. FAST SEALIFT TECHNOLOGY DEVELOPMENT PROGRAM

(a) NEW PROGRAM.—The Secretary of the Navy is authorized to establish a Fast Sealift Technology Development program for the purposes of completing, within 24 months after the date of the enactment of this Act, the technology development program described in the January 1989 report of the Secretary to Congress entitled "Fast Sealift Program Technology Assessment Report".

(b) FUNDING.—Of the amount authorized to be appropriated pursuant to section 201 for the Navy for fiscal year 1990, $15,000,000 shall be available for the Fast Sealift Technology Development program.

SEC. 214. TACTICAL OCEANOGRAPHY PROGRAM

(a) NEW PROGRAM.—The Secretary of the Navy is authorized to establish a Tactical Oceanography program to accelerate uses of scientific measurement and data collection devices and processes for the purpose of rapid tactical applications.

(b) FUNDING.—Of the amount authorized to be appropriated pursuant to section 201 for the Navy for fiscal year 1990, $3,000,000 shall be available for the Tactical Oceanography program.

SEC. 215. GRANT FOR SEMICONDUCTOR COOPERATIVE RESEARCH PROGRAM

Of the amount authorized to be appropriated pursuant to section 201(a) for fiscal year 1990 for Defense Agencies, $100,000,000 shall be available to make grants under section 272 of the National Defense Authorization Act for Fiscal Years 1988 and 1989 (Public Law 100–180; 15 U.S.C. 4602).

SEC. 216. ARMY HEAVY FORCE MODERNIZATION PROGRAM

(a) FUNDING.—Of the amount authorized to be appropriated pursuant to section 201 for the Army for fiscal year 1990, $58,000,000 shall be available to the Secretary of the Army for competitive development of Advanced Technology Transition Demonstrators (ATTDs) for a common chassis for the Heavy Force Modernization program of the Army.

(b) LIMITATION ON USE OF FUNDING.—No funds may be obligated for such competitive development until—

(1) the Milestone I decision to proceed with demonstration and validation for the Heavy Force Modernization program is made by the appropriate official of the Department of Defense (upon consideration of the recommendation of the Defense Acquisition Board for that program) and such decision includes proceeding with development of Advanced Technology Transition Demonstrators for the common chassis for that program; and

Reports.

(2) after such decision, the Secretary of Defense submits to the Committees on Armed Services of the Senate and House of Representatives a report described in subsection (c).

(c) REPORT.—The report referred to in subsection (b)(2) is a report by the Secretary of Defense containing the following:

(1) A description of the decisions referred to in subsection (b)(1), including a description of the demonstration and validation program approved.

(2) An updated Interagency Intelligence Memorandum providing current estimates (prepared within the 12 months preceding the date of the report) for production, and for operational capabilities, of future tanks of the Soviet Union.

(3) Detailed cost estimates and schedules for research, development, test, and evaluation, and for procurement, for all programs expected to use the common chassis to be selected pursuant to the competitive development under subsection (a) and explanations for the order in which those programs are to proceed through research, development, test, and evaluation and procurement.

(4) A description of the criteria to be used by the Secretary of Defense in determining whether—

(A) to proceed with a new tank program (for replacement of the M1 tank) using the common chassis to be selected pursuant to the competitive development under subsection (a); or

(B) to produce an M1A3 tank.

(5) The results of the review conducted under subsection (d).

(d) REVIEW OF ENGINE ACQUISITION PLAN.—(1) The Secretary of Defense, acting through an appropriate official of the Office of the Secretary of Defense designated by the Secretary, shall conduct a detailed review of the acquisition plan of the Department of the Army for the engine to be acquired for the common chassis to be selected pursuant to the competitive development under subsection (a).

(2) The review of such plan shall include a review of—

(A) the Transverse Mounted Engine Propulsion System;

(B) the Advanced Integrated Propulsion System; and

(C) derivatives of commercially developed engine systems.

(3) The review should determine—

(A) whether the schedule for development of the Advanced Technology Transition Demonstrator for the common chassis is consistent with the availability of engines; and

(B) whether such acquisition plan provides for the maximum competition between all alternatives.

SEC. 217. JOINT RESEARCH PROJECT ON MAGNETOENCEPHALOGRAPHY (MEG) AND NEUROMAGNETISM

Of the amounts appropriated pursuant to section 201 for fiscal year 1990, $250,000 may be used for the joint research project of the Department of the Army and the Department of Energy on magnetoencephalography (MEG) and neuromagnetism.

SEC. 218. V-22 OSPREY AIRCRAFT PROGRAM

Of the amount appropriated pursuant to section 201(a) or otherwise made available to the Navy for fiscal year 1990, not more than $255,000,000 may be obligated for research, development, test, and evaluation in connection with the V-22 aircraft program.

SEC. 219. BIODEGRADABLE MATERIALS RESEARCH

Of the amount appropriated pursuant to section 201 for the Army for fiscal year 1990, not more than $100,000 may be obligated for the purpose of continuing the research into the potential use of biodegradable materials in ration packaging designs. The Army Natick Research, Development, and Engineering Center shall be the responsible agency for such research.

PART C—STRATEGIC DEFENSE INITIATIVE

SEC. 221. FUNDING FOR THE STRATEGIC DEFENSE INITIATIVE FOR FISCAL YEAR 1990

(a) AMOUNT AUTHORIZED.—Of the amounts appropriated pursuant to section 201 for fiscal year 1990 or otherwise made available to the Department of Defense for research, development, test, and evaluation for fiscal year 1990, not more than $3,573,202,000 may be obligated for the Strategic Defense Initiative.

(b) MANAGEMENT HEADQUARTERS SUPPORT.—Of the amount available for the Strategic Defense Initiative pursuant to subsection (a), not more than $23,000,000 shall be available for Management Headquarters Support.

(c) FUNDS FOR SUPPORT OF MEDICAL FREE ELECTRON LASER PROGRAM.—Of the amounts appropriated for fiscal years 1990 and 1991 that are available for the Strategic Defense Initiative, not more than $20,000,000 of that amount for each such year may be used to support the medical free electron laser program.

SEC. 222. REPORT ON ALLOCATION OF FISCAL YEAR 1990 SDI FUNDING

(a) REPORT.—The Secretary of Defense shall submit to the congressional defense committees a report on the allocation of funds appropriated for the Strategic Defense Initiative for fiscal year 1990. The report shall specify the amount of such funds allocated for each program, project, or activity of the Strategic Defense Initiative.

(b) DEADLINE FOR REPORT.—The report required by subsection (a) shall be submitted not later than 90 days after the date of the enactment of legislation appropriating funds for the Strategic Defense Initiative for fiscal year 1990.

SEC. 223. LIMITATION ON DEVELOPMENT AND TESTING OF ANTIBALLISTIC MISSILE SYSTEMS OR COMPONENTS

(a) USE OF FUNDS.—(1) Funds appropriated or otherwise made available to the Department of Defense for fiscal year 1990, or any fiscal year before 1990, shall be subject to the limitations prescribed in paragraph (2).

(2) Funds described in paragraph (1) may not be obligated or expended—

(A) for the development or testing of any antiballistic missile system or component, except for development and testing consistent with the development and testing described in the 1989 SDIO Report; or

(B) for the acquisition of any material or equipment (including any long lead materials, components, piece parts, test equipment, or any modified space launch vehicle) required or to be used for the development or testing of antiballistic missile systems or components, except for material or equipment required for development or testing consistent with the development and testing described in the 1989 SDIO Report.

(3) The limitation in paragraph (2) shall not apply to funds transferred to or for the use of the Strategic Defense Initiative for fiscal year 1990 if the transfer is made in accordance with section 1601 of this Act.

(b) DEFINITION.—As used in this section, the term "1989 SDIO Report" means the report entitled, "1989 Report to Congress on the Strategic Defense Initiative," dated January 19, 1989, prepared by the Strategic Defense Initiative Organization and submitted to certain committees of the Senate and House of Representatives by the Secretary of Defense pursuant to section 231 of the National Defense Authorization Act for Fiscal Years 1988 and 1989 (Public Law 100-180; 101 Stat. 1059; 10 U.S.C. 2431 note).

SEC. 224. REQUIREMENT FOR ANNUAL REPORT ON SDI PROGRAMS

10 USC 2431 note.

(a) REPORT REQUIRED.—Not later than March 15 of each year, the Secretary of Defense shall transmit to Congress a report (in both unclassified and classified form) on the programs and projects that constitute the Strategic Defense Initiative and on any other program or project relating to defense against ballistic missiles.

(b) CONTENT OF REPORT.—Each such report shall include the following:

(1) A statement of the basic strategy for research and development being pursued by the Department of Defense under the Strategic Defense Initiative (SDI), including the relative priority being given, respectively, to the development of near-term deployment options and research on longer-term technological approaches.

(2) A detailed description of each program or project which is included in the Strategic Defense Initiative or which otherwise relates to defense against strategic ballistic missiles, including a technical evaluation of each such program or project and an assessment as to when each can be brought to the stage of full-scale engineering development (assuming funding as requested or programmed).

(3) A clear definition of the objectives of each planned deployment phase of the Strategic Defense Initiative or defense against strategic ballistic missiles.

(4) An explanation of the relationship between each such phase and each program and project associated with the proposed architecture for that phase.

(5) The status of consultations with other member nations of the North Atlantic Treaty Organization, Japan, and other appropriate allies concerning research being conducted in the Strategic Defense Initiative program.

(6) A statement of the compliance of the planned SDI development and testing programs with existing arms control agreements, including the 1972 Anti-Ballistic Missile Treaty.

(7) A review of possible countermeasures of the Soviet Union to specific SDI programs, an estimate of the time and cost required for the Soviet Union to develop each such countermeasure, and an evaluation of the adequacy of the SDI programs described in the report to respond to such countermeasures.

(8) Details regarding funding of programs and projects for the Strategic Defense Initiative (including the amounts authorized, appropriated, and made available for obligation after undistributed reductions or other offsetting reductions were carried out), as follows:

(A) The level of requested and appropriated funding provided for the current fiscal year for each program and project in the Strategic Defense Initiative budgetary presentation materials provided to Congress.

(B) The aggregate amount of funding provided for previous fiscal years (including the current fiscal year) for each such program and project.

(C) The amount requested to be appropriated for each such program and project for the next fiscal year.

(D) The amount programmed to be requested for each such program and project for the following fiscal year.

(E) The amount required to reach the next significant milestone for each demonstration program and each major technology program.

(9) Details on what Strategic Defense Initiative technologies can be developed or deployed within the next 5 to 10 years to defend against significant military threats and help accomplish critical military missions. The missions to be considered include the following:

(A) Defending elements of the Armed Forces abroad and United States allies against tactical ballistic missiles, particularly new and highly accurate shorter-range ballistic missiles of the Soviet Union armed with conventional, chemical, or nuclear warheads.

(B) Defending against an accidental launch of strategic ballistic missiles against the United States.

(C) Defending against a limited but militarily effective attack by the Soviet Union aimed at disrupting the National Command Authority or other valuable military assets.

(D) Providing sufficient warning and tracking information to defend or effectively evade possible attacks by the Soviet Union against military satellites, including those in high orbits.

(E) Providing early warning and attack assessment information and the necessary survivable command, control, and communications to facilitate the use of United States military forces in defense against possible conventional or strategic attacks by the Soviet Union.

(F) Providing protection of the United States population from a nuclear attack by the Soviet Union.

(G) Any other significant near-term military mission that the application of SDI technologies might help to accomplish.

(10) For each of the near-term military missions listed in paragraph (9), the report shall include the following:

(A) A list of specific program elements of the Strategic Defense Initiative that are pertinent to such mission.

(B) The Secretary's estimate of the initial operating capability dates for the architectures or systems to accomplish such missions.

(C) The Secretary's estimate of the level of funding necessary for each program to reach those initial operating capability dates.

(D) The Secretary's estimate of the survivability and cost effectiveness at the margin of such architectures or systems against current and projected threats from the Soviet Union.

PART D—STRATEGIC PROGRAMS

SEC. 231. FUNDING AND LIMITATIONS FOR ICBM MODERNIZATION PROGRAM

(a) OVERALL OBLIGATIONAL LIMITATION.—Of the amounts appropriated for the Department of Defense for fiscal year 1990 pursuant to this Act, not more than $1,131,700,000 may be obligated for the activities described in subsection (b) for the intercontinental ballistic missile (ICBM) modernization program.

Railroads. (b) COVERED ICBM MODERNIZATION ACTIVITIES.—The activities referred to in subsection (a) are the following:

(1) Research, development, test, and evaluation in connection with the MX Rail Garrison program and the Small ICBM program.

(2) Advance procurement of long-lead items for the MX Rail Garrison program.

(3) Advance procurement of initial spare parts for the MX Rail Garrison program.

(4) Procurement of operational Mark 21 reentry systems.

Wyoming. (5) Military construction at F. E. Warren Air Force Base, Wyoming, in connection with the MX Rail Garrison program.

(c) MAXIMUM AMOUNTS THAT MAY BE OBLIGATED FOR MODERNIZATION ACTIVITIES.—The maximum amount that may be obligated for each activity described in subsection (b) from amounts appropriated for the Department of Defense for fiscal year 1990 pursuant to this Act is as follows:

(1) For the activity described in subsection (b)(1), a total of $874,244,000.

(2) For the activity described in subsection (b)(2), $163,607,000.

(3) For the activity described in subsection (b)(3), $58,999,000.

(4) For the activity described in subsection (b)(4), $80,000,000.

(5) For the activity described in subsection (b)(5), $104,850,000.

(d) TRANSFER AUTHORITY; LIMITATION.—(1) The Secretary of Defense may transfer funds made available for fiscal year 1990 for any activity referred to in subsection (b) to any other activity referred to in that subsection, except that in no case may the total amount obligated from fiscal year 1990 defense funds for that activity exceed the amount specified for that activity in subsection (c).

(2) An amount transferred pursuant to this subsection may be used only in connection with the activity to which transferred and shall be merged with other funds made available for that activity for fiscal year 1990.

(3) An amount transferred pursuant to this subsection shall not be counted against the maximum amount authorized to be transferred pursuant to this Act under section 1601(a).

(e) USE OF UNOBLIGATED FY 1989 FUNDS.—The Secretary of the Air Force shall use $100,000,000 of amounts appropriated for research, development, test, and evaluation for the Air Force for fiscal year 1989 that remain available for obligation to carry out research, development, test, and evaluation in connection with the Small ICBM program.

(f) REPORT TO CONGRESS.—Not later than 10 days after the date of the enactment of this Act, the Secretary of Defense shall submit to the congressional defense committees a report specifying the amounts allocated to each activity referred to in subsection (b) and an explanation of any transfer of funds made pursuant to subsection (d). In the case of any such transfer of funds, the report shall include an identification of the activity or activities from which the funds are transferred and the activity or activities to which the funds are transferred.

SEC. 232. FUNDING FOR SECURITY IMPROVEMENTS AT THE KWAJALEIN TEST RANGE

The Secretary of Defense shall transfer to the Army $7,500,000 from funds available for research, development, test and evaluation for the Armed Forces for fiscal year 1990. Funds so transferred shall be available for the sole purpose of funding highest priority security improvements at the Kwajalein Test Range. Funds made available for such purpose shall be in addition to any funds otherwise made available for the United States Army Kwajalein Atoll Command.

SEC. 233. TITAN IV WEST COAST LAUNCH PAD

(a) PROHIBITION ON OBLIGATION OF FUNDS FOR SLC-7 FACILITY.—Funds appropriated or otherwise made available for the Air Force for fiscal year 1990 may not be obligated or expended in connection with the launch facility at Vandenberg Air Force Base, California, identified as the SLC-7 Launch Facility.

(b) LIMITATION ON OBLIGATION OF FUNDS FOR SLC-6 FACILITY.—(1) Of the funds appropriated for the Air Force for research, development, test, and evaluation for fiscal year 1990, not more than $31,200,000 shall be available for conversion of the launch facility at Vandenberg Air Force Base, California, identified as the SLC-6 Launch Facility, for launching Titan IV expendable launch vehicles.

(2) Funds appropriated or otherwise made available for the Air Force for fiscal year 1990 may not be used for a second West Coast launch capability for Titan IV expendable launch vehicles except for the conversion of the SLC-6 launch facility to such a capability.

PART E—CHEMICAL AND BIOLOGICAL WARFARE PROGRAMS

SEC. 241. PROGRAM FOR MONITORING COMPLIANCE WITH POSSIBLE CHEMICAL WEAPONS CONVENTION

Of the amount authorized to be appropriated pursuant to section 201 for the Defense Agencies for fiscal year 1990, $15,000,000 shall be available for use only by the Office of the Secretary of Defense to

conduct a program to develop and demonstrate compliance monitoring capabilities in support of efforts by the United States in the Conference on Disarmament at Geneva to achieve a verifiable convention on the prohibition of chemical weapons.

SEC. 242. REPORT ON BIOLOGICAL DEFENSE RESEARCH PROGRAM

(a) REPORT.—The Secretary of Defense shall submit to the Congress a report on research, development, test, and evaluation conducted by the Department of Defense during fiscal year 1989 under the Biological Defense Research Program. The report shall be submitted in both classified and unclassified form in conjunction with the submission of the budget to Congress for fiscal 1991.

(b) CONTENT OF REPORT.—The report shall address the following matters:

(1) Each biological or infectious agent used in, or the subject of, research, development, test, and evaluation conducted under that program during that fiscal year and not previously listed in the Center for Disease Control Guidelines.

(2) The biological properties of each such agent.

(3) With respect to each agent, the location at which research, development, test, and evaluation under that program involving that agent is conducted and the amount of funds expended during that fiscal year under the program at that location.

(4) The biosafety level used in conducting that research, development, test, and evaluation.

(c) TYPES OF RESEARCH AFFECTED.—Subsection (a) applies to all research, development, test, and evaluation conducted under the Biological Defense Research Program by the Department of Defense.

(d) DEFINITION.—In this section the term "biosafety level" means the applicable biosafety level described in the publication entitled "Biosafety in Microbiological and Biomedical Laboratories" (CDC-NIH, 1984).

SEC. 243. RESTORATION OF CERTAIN REPORTING REQUIREMENTS RELATING TO CHEMICAL AND BIOLOGICAL WARFARE AGENTS

(a) SPECIFIC REPORTS.—Section 602 of the Goldwater-Nichols Department of Defense Reorganization Act of 1986 (100 Stat. 1066; 10 U.S.C. 111 note) is amended—

(1) by striking out subsections (g) and (h) and inserting in lieu thereof the following:

"(g) PUBLIC LAW 91-121.—The exception provided in subsection (d)(3) applies to the following annual report and notifications relating to chemical or biological warfare agents:

"(1) The annual report required by subsection (a) of section 409 of Public Law 91-121 (50 U.S.C. 1511).

"(2) The notifications required by subsections (b)(4) and (c)(1) of such section (50 U.S.C. 1512(4), 1513(1)).

"(h) PUBLIC LAW 91-441.—The exception provided in subsection (d)(3) applies to the following reports:

"(1) The annual report required by section 203(c) of Public Law 91-141 (10 U.S.C. 2358 note), relating to independent research and development and bid and proposal programs.

"(2) Reports required by section 506(d) of such public law (50 U.S.C. 1518), relating to the disposal of chemical or biological warfare agents."; and

(2) by adding at the end the following new subsection:

"(v) PUBLIC LAW 95-79.—The exception provided in subsection (d)(3) applies to the notifications required by section 808 of Public Law 95-79 (50 U.S.C. 1520), relating to chemical or biological warfare agents.".

(b) CONFORMING AMENDMENT.—Subsection (d)(3) of such section is amended by striking out "(u)" and inserting in lieu thereof "(v)".

PART F—OTHER MATTERS

SEC. 251. ADVANCED RESEARCH PROJECTS

(a) AUTHORITY FOR DARPA COOPERATIVE AGREEMENTS AND OTHER TRANSACTIONS.—(1) Chapter 139 of title 10, United States Code, as amended by section 242(a), is further amended by adding at the end the following new section:

"§ 2371. Advanced research projects: cooperative agreements and other transactions

"(a) The Secretary of Defense, in carrying out advanced research projects through the Defense Advanced Research Projects Agency, may enter into cooperative agreements and other transactions with any person, any agency or instrumentality of the United States, any unit of State or local government, any educational institution, and any other entity.

"(b)(1) Cooperative agreements and other transactions entered into by the Secretary under subsection (a) may include a clause that requires a person or other entity to make payments to the Department of Defense (or any other department or agency of the Federal Government) as a condition for receiving support under the agreement or other transaction.

"(2) The amount of any payment received by the Federal Government pursuant to a requirement imposed under paragraph (1) may be credited, to the extent authorized by the Secretary of Defense, to the account established under subsection (e). Amounts so credited shall be merged with other funds in the account and shall be available for the same purposes and the same period for which other funds in such account are available.

"(c) The authority provided under subsection (a) may be exercised without regard to section 3324 of title 31.

"(d) The Secretary shall ensure that—

"(1) to the maximum extent practicable, a cooperative agreement or other transaction under this section does not provide for research that duplicates research being conducted under existing programs carried out by the Department of Defense;

"(2) to the extent the Secretary determines practicable, the funds provided by the Government under the cooperative agreement or other transaction do not exceed the total amount provided by other parties to the cooperative agreement or other transaction; and

"(3) the authority under this section is used only when the use of standard contracts or grants is not feasible or appropriate.

"(e) There is hereby established on the books of the Treasury an account for support of advanced research projects provided for in cooperative agreements and other transactions entered into under subsection (a). Funds in such account shall be available for the payment of such support.

Reports.

"(f) Not later than 60 days after the end of each fiscal year, the Secretary of Defense shall submit to the Committees of Armed Services of the Senate and House of Representatives a report on all cooperative agreements and other transactions (other than contracts and grants) entered into under this section during such fiscal year. The report shall contain, with respect to each such cooperative agreement and transaction, the following:

"(1) A general description of the cooperative agreement or other transaction (as the case may be), including the technologies for which advanced research is provided for under such agreement or transaction.

"(2) The potential military and, if any, commercial utility of such technologies.

"(3) The reasons for not using a contract or grant to provide support for such advanced research.

"(4) The amount of the payments, if any, referred to in subsection (b) that were received by the Federal Government in connection with such cooperative agreement or other transaction during the fiscal year covered by the report.

"(5) The amount of the payments reported under paragraph (4), if any, that were credited to the account established under subsection (e).

Termination date.

"(g) The authority of the Secretary to enter into cooperative agreements and other transactions under this section expires at the close of September 30, 1991.".

(2) The table of sections at the beginning of such chapter, as amended by section 242(a), is further amended by adding at the end the following new item:

"2371. Advanced research projects: cooperative agreements and other transactions.".

(b) FUNDING.—Of the amounts appropriated pursuant to section 201 for the Defense Agencies, not more than $25,000,000 of the funds appropriated for fiscal year 1990 and not more than $25,000,000 of the funds appropriated for fiscal year 1991 may be available for the support, through the Defense Advanced Research Projects Agency, of advanced research provided for in cooperative agreements and other transactions authorized by section 2371 of title 10, United States Code (as added by subsection (a)). That amount shall be credited to the account established under subsection (e) of such section.

Grants.

SEC. 252. CLARIFICATION OF REQUIREMENT FOR COMPETITION IN AWARD OF RESEARCH AND DEVELOPMENT CONTRACTS AND CONSTRUCTION CONTRACTS TO COLLEGES AND UNIVERSITIES

(a) COMPETITION REQUIREMENT.—Subsection (a) of section 2361 of title 10, United States Code, is amended by striking out "unless the grant" and all that follows through the end of the subsection and inserting in lieu thereof "unless—

"(1) in the case of a grant, the grant is made using competitive procedures; and

"(2) in the case of a contract, the contract is awarded in accordance with section 2304 of this title (other than pursuant to subsection (c)(5) of that section).".

(b) RESTRICTIONS WITH RESPECT TO SUPERSEDING LEGISLATION.—(1) Subsection (b) of such section is amended to read as follows:

"(b)(1) A provision of law may not be construed as modifying or superseding the provisions of subsection (a), or as requiring funds to be made available by the Secretary of Defense to a particular college or university by grant or contract, unless that provision of law—

"(A) specifically refers to this section;

"(B) specifically states that such provision of law modifies or supersedes the provisions of this section; and

"(C) specifically identifies the particular college or university involved and states that the grant to be made or the contract to be awarded, as the case may be, pursuant to such provision of law is being made or awarded in contravention of subsection (a).

"(2) A grant may not be made, or a contract awarded, pursuant to a provision of law that authorizes or requires the making of the grant, or the awarding of the contract, in a manner that is inconsisent with subsection (a) until—

"(A) the Secretary of Defense submits to Congress a notice in writing of the intent to make the grant or award the contract; and

"(B) a period of 180 days has elapsed after the date on which the notice is received by Congress.".

(2) Subsection (b) of section 2361 of title 10, United States Code, as amended by paragraph (1), applies with respect to any provision of law enacted after September 30, 1989. Effective date. 10 USC 2361 note.

(c) SEMIANNUAL REPORT.—(1) Such section is further amended by adding at the end the following new subsection:

"(c)(1) The Secretary of Defense shall submit to the Committees on Armed Services of the Senate and House of Representatives a semiannual report on the use of competitive procedures for the award of research and development contracts, and the award of construction contracts, to colleges and universities. Each such report shall include—

"(A) a list of each college and university that, during the period covered by the report, received more than $1,000,000 in such contracts through the use of procedures other than competitive procedures; and

"(B) the cumulative amount of such contracts received during that period by each such college and university.

"(2) The reports under paragraph (1) shall cover the six-month periods ending on June 30 and December 31 of each year. Each such report shall be submitted within 30 days after the end of the period covered by the report.

"(3) A report is not required under paragraph (1) for any period beginning after December 31, 1993.".

(2) The first report under subsection (c) of section 2361 of title 10, United States Code, as added by paragraph (1), shall cover the last six months of 1989 and shall be submitted not later than February 1, 1990. 10 USC 2361 note.

SEC. 253. EXTENSION OF DEADLINE FOR SELECTION OF HEAVY TRUCK SYSTEM CONFIGURED WITH PALLETIZED LOADING SYSTEM

Section 259(b) of the National Defense Authorization Act for Fiscal Years 1988 and 1989 (Public Law 100-180; 101 Stat. 1068) is amended by striking out "24 months after the enactment of this Act" in the first sentence and inserting in lieu thereof "June 4, 1990".

SEC. 254. TESTING OF INFANTRY ANTI-TANK WEAPON

(a) EVALUATION OF INFANTRY ANTI-TANK WEAPON.—(1) The Secretary of the Army shall conduct a side-by-side test and evaluation of the Bofors Bill weapon system, the Milan weapon system, and the Dragon II weapon system. On the basis of the performance of those systems in those tests, the Secretary of the Army shall select the superior weapon system, giving full consideration to cost effectiveness.

(2) Such test and evaluation shall be conducted, and such selection shall be made, not later than six months after the date of the enactment of this Act.

(3) The tests and criteria used for such evaluation shall be identical to those used for tests under section 114 of the National Defense Authorization Act, Fiscal Year 1989 (Public Law 100-456; 102 Stat. 1931) and the associated language on page 303 of the joint explanatory statement of managers for the bill H.R. 4481 of the 100th Congress (House Report 100-989 of the 100th Congress).

(b) FUNDING OF TESTS.—The tests under subsection (a) shall be funded from—

(1) funds appropriated for fiscal year 1988 for evaluation of the Bofors Bill system and Milan system which remain unspent;

(2) funds appropriated for fiscal year 1989 for the terminated Dragon III program which remain unspent; and

(3) other fiscal year 1988 or 1989 funds available to the Secretary.

(c) INDEPENDENT ASSESSMENTS.—The Comptroller General of the United States and the Director of Operational Test and Evaluation of the Department of Defense shall each conduct an assessment of the operational tests and evaluations referred to in subsection (a). The Comptroller General and the Director shall each submit a report on such assessment to the Committees on Armed Services of the Senate and House of Representatives not later than two months after the end of the tests.

Reports.

SEC. 255. FUNDING FOR FACILITY FOR COLLABORATIVE RESEARCH AND TRAINING FOR MILITARY MEDICAL PERSONNEL; FUNDING FOR MICROELECTRONICS RESEARCH

(a) FUNDING.—(1) Of the amounts appropriated pursuant to section 201 for fiscal year 1990, $18,000,000 may be used by the Secretary of Defense as a contribution toward the construction of a facility as part of a complex to enable collaborative research and training for Department of Defense military medical personnel in the following fields:

(A) Trauma care.

(B) Head, neck, and spinal injury.

(C) Paralysis.

(D) Neurosciences and neurodegenerative diseases.

(2) Such a contribution may be made only for a facility that will—

(A) support education, training, treatment, and rehabilitative services related to the fields described in paragraph (1); and

(B) support neuroscience research with relevance for the medical mission of the Department of Defense.

(3) Such a contribution may be made only for a facility to be located at an institutional setting that—

(A) has received national recognition for its work in the fields listed in paragraph (1); and

(B) can best facilitate interagency collaborative research, education, and training activities.

(4) The amount of a contribution under paragraph (1) may not exceed 33 percent of the total cost of such complex.

(b) MICROELECTRONICS RESEARCH.—Of the funds authorized to be appropriated pursuant to section 201 for fiscal year 1990, not more than $15,000,000 may be made available for a program of research in advanced microelectronics, optoelectronics, and materials. None of such funds may be obligated before July 1, 1990. Any contract awarded under such program shall be awarded using competitive procedures to the maximum extent feasible.

SEC. 256. AVAILABILITY OF FUNDS TRANSFERRED TO NASA FOR NATIONAL AEROSPACE PLANE

Of amounts appropriated to the Department of Defense for fiscal year 1990 that are transferred to the National Aeronautics and Space Administration pursuant to law, not more than $225,000,000 may be used for the National Aerospace Plane program.

SEC. 257. REPEAL OF SPECIFICATION OF FUNDS FOR RANKINE ENGINE

Section 205(a)(3) of the National Defense Authorization Act for Fiscal Years 1988 and 1989 (Public Law 100-180; 101 Stat. 1047) is repealed.

TITLE III—OPERATION AND MAINTENANCE

PART A—AUTHORIZATION OF APPROPRIATIONS

SEC. 301. OPERATION AND MAINTENANCE FUNDING

(a) AUTHORIZATION OF APPROPRIATIONS FOR FISCAL YEAR 1990.—Funds are hereby authorized to be appropriated for fiscal year 1990 for the use of the Armed Forces and other activities and agencies of the Department of Defense for expenses, not otherwise provided for, for operation and maintenance in amounts as follows:

(1) For the Army, $22,973,309,000.
(2) For the Navy, $23,926,751,000.
(3) For the Marine Corps, $1,657,800,000.
(4) For the Air Force, $21,909,296,000.
(5) For the Defense Agencies, $7,850,472,000.
(6) For the Army Reserve, $861,800,000.
(7) For the Naval Reserve, $894,800,000.
(8) For the Marine Corps Reserve, $77,400,000.
(9) For the Air Force Reserve, $978,500,000.
(10) For the Army National Guard, $1,867,100,000.
(11) For the Air National Guard, $1,981,900,000.
(12) For the National Board for the Promotion of Rifle Practice, $3,970,000.
(13) For the Defense Inspector General, $94,749,000.
(14) For the Court of Military Appeals, $4,000,000.
(15) For Environmental Restoration, Defense, $601,100,000.
(16) For Humanitarian Assistance, $13,000,000.
(17) For the Goodwill Games, as provided in section 305 of the National Defense Authorization Act, Fiscal Year 1989 (Public Law 100-456; 102 Stat. 1949), $14,600,000.

(b) AUTHORIZATION OF APPROPRIATIONS FOR FISCAL YEAR 1991.—Funds are hereby authorized to be appropriated for fiscal year 1991 for the use of the Armed Forces and other activities and agencies of

the Department of Defense for expenses, not otherwise provided for, for operation and maintenance in amounts as follows:

(1) For the Army, $24,648,400,000.
(2) For the Navy, $25,262,700,000.
(3) For the Marine Corps, $1,771,300,000.
(4) For the Air Force, $23,344,300,000.
(5) For the Defense Agencies, $8,318,900,000.
(6) For the Army Reserve, $902,600,000.
(7) For the Naval Reserve, $949,900,000.
(8) For the Marine Corps Reserve, $79,400,000.
(9) For the Air Force Reserve, $1,015,400,000.
(10) For the Army National Guard, $1,896,300,000.
(11) For the Air National Guard, $2,104,600,000.
(12) For the National Board for the Promotion of Rifle Practice, $5,600,000.
(13) For the Defense Inspector General, $97,600,000.
(14) For the Court of Military Appeals, $4,200,000.
(15) For Environmental Restoration, Defense, $519,900,000
(16) For Humanitarian Assistance, $13,000,000.

(c) SPECIAL AUTHORIZATION FOR CONTINGENCIES.—There is authorized to be appropriated for each of fiscal years 1990 and 1991, in addition to the amounts authorized to be appropriated in subsections (a) and (b), such sums as may be necessary—

(1) for unbudgeted increases in fuel costs; and

(2) for unbudgeted increases as the result of inflation in the cost of activities authorized by such subsections.

SEC. 302. WORKING CAPITAL FUNDS

(a) AUTHORIZATION OF APPROPRIATIONS FOR FISCAL YEAR 1990.—Funds are hereby authorized to be appropriated for fiscal year 1990 for the use of the Armed Forces and other activities and agencies of the Department of Defense for providing capital for working-capital funds in amounts as follows:

(1) For the Navy Stock Fund, $40,500,000.
(2) For the Air Force Stock Fund, $126,100,000.
(3) For the Defense Stock Fund, $78,100,000.

(b) AUTHORIZATION OF APPROPRIATIONS FOR FISCAL YEAR 1991.—Funds are hereby authorized to be appropriated for fiscal year 1991 for the use of the Armed Forces and other activities and agencies of the Department of Defense for providing capital for working-capital funds in amounts as follows:

(1) For the Army Stock Fund, $141,500,000.
(2) For the Navy Stock Fund, $232,100,000.
(3) For the Air Force Stock Fund, $319,600,000.
(4) For the Defense Stock Fund, $156,300,000.

SEC. 303. DEPARTMENT OF DEFENSE BASE CLOSURE ACCOUNT

(a) AUTHORIZATION OF APPROPRIATIONS FOR FISCAL YEAR 1990.—There is authorized to be appropriated for fiscal year 1990 to the Department of Defense Base Closure Account established by section 207(a)(1) of the Defense Authorization Amendments and Base Closure and Realignment Act (Public Law 100-526; 102 Stat. 2631), $500,000,000.

(b) AUTHORIZATION OF APPROPRIATIONS FOR FISCAL YEAR 1991.—There is authorized to be appropriated for fiscal year 1991 to the Department of Defense Base Closure Account established by section 207(a)(1) of the Defense Authorization Amendments and Base Clo-

sure and Realignment Act (Public Law 100-526; 102 Stat. 2631), $500,000,000.

SEC. 304. HUMANITARIAN ASSISTANCE

Refugees. Afghanistan.

(a) PURPOSE.—Funds appropriated pursuant to the authorizations in subsections (a)(16) and (b)(16) of section 301 for humanitarian assistance shall be used for the purpose of providing transportation for humanitarian relief for persons displaced or who are refugees because of the invasion of Afghanistan by the Soviet Union. Of the funds appropriated for each of fiscal years 1990 and 1991 pursuant to such subsections for such purpose, not more than $3,000,000 may be used for distribution of humanitarian relief supplies to the non-Communist resistance organization at or near the border between Thailand and Cambodia.

Thailand. Cambodia.

(b) AUTHORITY TO TRANSFER FUNDS.—The Secretary of Defense may transfer to the Secretary of State not more than $3,000,000 of the funds appropriated pursuant to such subsections for each of fiscal years 1990 and 1991 for humanitarian assistance to provide for—

(1) the payment of administrative costs incurred in providing the transportation described in subsection (a); and

(2) the purchase or other acquisition of transportation assets for the distribution of humanitarian relief supplies in the country of destination.

(c) TRANSPORTATION UNDER DIRECTION OF THE SECRETARY OF STATE.—Transportation for humanitarian relief provided with funds appropriated pursuant to such subsections for humanitarian assistance shall be provided under the direction of the Secretary of State.

(d) MEANS OF TRANSPORTATION TO BE USED.—Transportation for humanitarian relief provided with funds appropriated pursuant to such subsections for humanitarian assistance shall be provided by the most economical commercial or military means available, unless the Secretary of State determines that it is in the national interest of the United States to provide transportation other than by the most economical means available. The means used to provide such transportation may include the use of aircraft and personnel of the reserve components of the Armed Forces.

(e) AVAILABILITY OF FUNDS.—Funds appropriated pursuant to such subsections for humanitarian assistance shall remain available until expended, to the extent provided in appropriation Acts.

(f) REPORTS TO CONGRESS.—(1) The Secretary of Defense shall submit (at the times specified in paragraph (2)) to the Committees on Armed Services and Foreign Relations of the Senate and the Committees on Armed Services and Foreign Affairs of the House of Representatives a report on the provision of humanitarian assistance under the humanitarian relief laws specified in paragraph (4).

(2) A report required by paragraph (1) shall be submitted—

(A) not later than 60 days after the date of the enactment of this Act;

(B) not later than June 1, 1990; and

(C) not later than June 1 of each year thereafter until all funds available for humanitarian assistance under the humanitarian relief laws specified in paragraph (4) have been obligated.

(3) A report required by paragraph (1) shall contain (as of the date on which the report is submitted) the following information:

(A) The total amount of funds obligated for humanitarian relief under the humanitarian relief laws specified in paragraph (4).

(B) The number of scheduled and completed flights for purposes of providing humanitarian relief under the humanitarian relief laws specified in paragraph (4).

(C) A description of any transfer (including to whom the transfer is made) of excess nonlethal supplies of the Department of Defense made available for humanitarian relief purposes under section 2547 of title 10, United States Code.

(4) The humanitarian relief laws referred to in paragraphs (1), (2), and (3) are the following:

(A) This section.

(B) Section 305 of the Department of Defense Authorization Act, 1986 (Public Law 99-145; 99 Stat. 617).

(C) Section 331 of the National Defense Authorization Act for Fiscal Years 1988 and 1989 (Public Law 100-180; 101 Stat. 1078).

(D) Section 303 of the National Defense Authorization Act, Fiscal Year 1989 (Public Law 100-456; 102 Stat. 1948).

(5) Section 303 of the National Defense Authorization Act, Fiscal Year 1989 (Public Law 100-456; 102 Stat. 1948), is amended by striking out subsection (f).

SEC. 305. ARMY AVIATION FLIGHT FACILITY AT JACKSON, TENNESSEE

(a) ESTABLISHMENT OF FACILITY.—The Secretary of the Army shall establish an Army aviation flight facility at McKellar Field in Jackson, Tennessee.

(b) AMOUNT AUTHORIZED FOR TRANSFER OF BRIGADE.—Of the amount appropriated pursuant to section 301 for fiscal year 1990 for operation and maintenance for the Army National Guard, $300,000 is authorized to be used to transfer the aviation section of the 30th Separate Armored Brigade of the Tennessee National Guard to the facility established pursuant to subsection (a).

SEC. 306. ASSISTANCE TO SCHOOLS TO BENEFIT CHILDREN OF MEMBERS OF THE ARMED FORCES AND CIVILIAN EMPLOYEES OF THE DEPARTMENT OF DEFENSE

(a) ASSISTANCE AUTHORIZED.—Of the amounts appropriated for operation and maintenance for fiscal year 1990, the Secretary of Defense is authorized to use $10,000,000 for the purpose of providing, in consultation with the Secretary of Education, assistance to eligible local educational agencies that operate schools that include students who—

(1) are dependent children of members of the Armed Forces or of civilian employees of the Department of Defense; and

(2) while in attendance at such schools, reside on Federal property.

(b) ELIGIBLE LOCAL EDUCATIONAL AGENCIES.—A local educational agency described in subsection (a) is eligible for financial assistance under such subsection if the Secretary of Defense, in consultation with the Secretary of Education, determines that such agency is unable, without the addition of such assistance, to provide a level of education for such students equivalent to the minimum level of education available within the State in which such students reside (as determined by comparable school district data).

Reports.

(c) CRITERIA FOR ASSISTANCE.—Not later than December 31, 1989, the Secretary of Defense shall submit to the Committees on Armed

Services and Labor and Human Resources of the Senate and the Committees on Armed Services and Education and Labor of the House of Representatives a report describing the criteria and procedures the Secretary will use to select recipient agencies for assistance under subsection (a).

(d) REPORT ON IMPACT AID.—Not later than December 31, 1989, the Secretary of Defense, in consultation with the Secretary of Education, shall submit to the Committee on Armed Services and the Committee on Labor and Human Resources of the Senate and the Committee on Armed Services and the Committee on Education and Labor of the House of Representatives a report on the feasibility and desirability—

(1) of transferring to the Department of Defense by October 1, 1991, impact aid responsibilities for schools impacted by Department of Defense activities; and

(2) of providing support services (including funds for facilities) to schools receiving impact aid as a result of the presence of dependent children of members of the Armed Forces or of civilian employees of the Department of Defense.

PART B—LIMITATIONS

SEC. 311. PROHIBITION ON PAYMENT OF SEVERANCE PAY TO FOREIGN NATIONALS IN THE EVENT OF CERTAIN BASE CLOSURES

(a) CERTAIN SEVERANCE PAY COSTS NOT ALLOWABLE COSTS WITH RESPECT TO SERVICE CONTRACTS PERFORMED OUTSIDE THE UNITED STATES.—(1) Subsection (e)(1) of section 2324 of title 10, United States Code, is amended—

(A) by redesignating subparagraph (N) as subparagraph (O); and

(B) by inserting after subparagraph (M) the following new subparagraph (N):

"(N) Costs of severance pay paid by the contractor to a foreign national employed by the contractor under a service contract performed in a foreign country if the termination of the employment of the foreign national is the result of the closing of, or the curtailment of activities at, a United States military facility in that country at the request of the government of that country.".

(2) Subparagraph (N) of such subsection, as added by paragraph (1), shall not apply with respect to the termination of the employment of a foreign national employed under any covered contract (as defined in subsection (l) of such section) if such termination is the result of the closing of, or the curtailment of activities at, a United States military facility in a foreign country pursuant to an agreement entered into with the government of that country before the date of the enactment of this Act. 10 USC 2324 note.

(b) PROHIBITION ON PAYMENT OF SEVERANCE PAY TO FOREIGN NATIONALS EMPLOYED BY THE DEPARTMENT OF DEFENSE.—(1) Chapter 81 of title 10, United States Code, is amended by adding at the end the following new section:

"§ 1592. Prohibition on payment of severance pay to foreign nationals in the event of certain overseas base closures

"Funds available to the Department of Defense may not be used to pay severance pay to a foreign national employed by the Department of Defense under a contract performed in a foreign country if

the termination of the employment of the foreign national is the result of the closing of, or the curtailment of activities at, a United States military facility in that country at the request of the government of that country.".

(2) The table of sections at the beginning of such chapter is amended by adding at the end the following new item:

"1592. Prohibition on payment of severance pay to foreign nationals in the event of certain overseas base closures.".

Effective date. 10 USC 1592 note.

(3)(A) Section 1592 of title 10, United States Code, as added by paragraph (1), shall take effect on the date of the enactment of this Act.

(B) Such section shall not apply with respect to the closing of, or the curtailment of activities at, a United States military facility in a foreign country pursuant to an agreement entered into with the government of that country before the date of the enactment of this Act.

(c) SENSE OF CONGRESS.—It is the sense of Congress that—

(1) in the event a United States military facility located in a foreign country is closed (or activities at the facility are curtailed) at the request of the government of that country, such government should be responsible for the payment of severance pay to foreign nationals in the country whose employment by the United States or by a contractor under a contract with the United States is terminated as a result of the closure or curtailment; and

(2) in negotiating a status-of-forces agreement or other country-to-country agreement with the government of a foreign country, the President should endeavor to include in the agreement a provision that would require the government of that country to pay severance pay to foreign nationals in that country whose employment is terminated as a result of the closing of, or the curtailment of activities at, a United States military facility in that country, if the closing or curtailment is at the request of the government of that country.

SEC. 312. PROHIBITION ON JOINT USE OF THE MARINE CORPS AIR STATION AT EL TORO, CALIFORNIA, WITH CIVIL AVIATION

The Secretary of the Navy may not enter into any agreement that would provide for, or permit, civil aircraft to regularly use the Marine Corps Air Station at El Toro, California.

SEC. 313. CLARIFICATION OF PROHIBITION ON CERTAIN DEPOT MAINTENANCE WORKLOAD COMPETITIONS

Section 2466 of title 10, United States Code, is amended—

(1) by striking out "may not require" and inserting in lieu thereof "shall prohibit";

(2) by striking out "or" after "Secretary of the Army" and inserting in lieu thereof "and"; and

(3) by striking out "to carry out" and inserting in lieu thereof "from carrying out".

SEC. 314. REDUCTION IN THE NUMBER OF CIVILIAN PERSONNEL AUTHORIZED FOR DUTY IN EUROPE

(a) REDUCTION REQUIRED.—The number of civilian employees of the Department of Defense authorized for duty in Europe on the date of the enactment of this Act shall be reduced by a number

equal to the number of remaining authorizations for employees of the department that—

(1) were related to intermediate-range nuclear forces on December 8, 1987; and

(2) are unnecessary as a result of the Treaty between the United States of America and the Union of Soviet Socialist Republics on the Elimination of their Intermediate-range and Shorter-range Missiles, signed on December 8, 1987 (commonly referred to as the "INF Treaty"). International agreements.

(b) DEADLINE FOR REDUCTION.—The reduction in the number of employees authorized for duty in Europe required by subsection (a) shall be completed not later than October 1, 1991.

SEC. 315. REPEAL OF LIMITATION ON THE USE OF OPERATION AND MAINTENANCE FUNDS TO PURCHASE INVESTMENT ITEMS

Section 303 of the National Defense Authorization Act for Fiscal Years 1988 and 1989 (Public Law 100-180; 101 Stat. 1073) is repealed.

PART C—MISCELLANEOUS PROGRAM CHANGES

SEC. 321. AUTHORIZATION TO REDUCE UNDER CERTAIN CIRCUMSTANCES THE RATES FOR MEALS SOLD AT A MILITARY DINING FACILITY

Section 1011(a) of title 37, United States Code, is amended—

(1) by striking out "or enlisted members" and all that follows through the period in the first sentence and inserting in lieu thereof "and enlisted members."; and

(2) by adding after the second sentence the following new sentence: "Notwithstanding the preceding sentence, if the Secretary determines that it is in the best interest of the United States, the Secretary may reduce a rate for meals established under this subsection by the amount of that rate attributable to operating expenses.".

SEC. 322. IMPROVED AND EXPEDITED DISPOSAL OF LOST, ABANDONED, OR UNCLAIMED PERSONAL PROPERTY IN THE CUSTODY OF THE ARMED FORCES

(a) IN GENERAL.—Subsection (a) of section 2575 of title 10, United States Code, is amended—

(1) by striking out "120 days" in the third sentence and inserting in lieu thereof "45 days";

(2) by striking out "$25 or more" and all that follows through "three months" in the fourth sentence and inserting in lieu thereof "more than $300, the Secretary may not dispose of the property until 45 days"; and

(3) by inserting after the second sentence the following new sentences: "The diligent effort to find the owner (or the heirs, next of kin, or legal representative of the owner) shall begin, to the maximum extent practicable, not later than seven days after the date on which the property comes into the custody or control of the Secretary. The period for which that effort is continued may not exceed 45 days.".

(b) TECHNICAL AMENDMENTS.—Such section is further amended—

(1) by striking out "owner, his heirs or next of kin, or his legal representative" each place it appears and inserting in lieu

thereof "owner (or the heirs, next of kin, or legal representative of the owner)";

(2) in subsection (a)—

(A) by striking out "his department" and inserting in lieu thereof "the Secretary's department"; and

(B) by striking out "owner, his heirs or next of kin, or his legal representatives" and inserting in lieu thereof "owner (or heirs, next of kin, or legal representative of the owner)"; and

(3) in subsection (c), by striking out "he" and inserting in lieu thereof "that person".

10 USC 2575 note.

(c) EFFECTIVE DATE.—The amendments made by subsection (a) shall apply with respect to property that comes into the custody or control of the Secretary of a military department or the Secretary of Transportation after the date of the enactment of this Act.

SEC. 323. PROCUREMENT OF LAUNDRY AND DRY CLEANING SERVICES FROM NAVY EXCHANGES

(a) IN GENERAL.—Chapter 143 of title 10, United States Code, is amended by adding at the end the following new section:

"§ 2423. Laundry and dry cleaning services: procurement from facilities operated by the Navy Resale and Services Support Office

"(a) AUTHORITY.—The Secretary of Defense may authorize an element of the Department of Defense to enter into a contract (through the use of procedures other than competitive procedures) with a laundry and dry cleaning facility operated by the Navy Resale and Services Support Office to procure laundry and dry cleaning services for the armed forces outside the United States.

"(b) APPLICATION.—Subsection (a) shall apply only with respect to a laundry and dry cleaning facility of the Navy Resale and Services Support Office that began operating before October 1, 1989.".

(b) CLERICAL AMENDMENT.—The table of sections at the beginning of such chapter is amended by adding at the end the following new item:

"2423. Laundry and dry cleaning services: procurement from facilities operated by the Navy Resale and Services Support Office.".

SEC. 324. PROCUREMENT OF SUPPLIES AND SERVICES FROM MILITARY EXCHANGES OUTSIDE THE UNITED STATES

(a) IN GENERAL.—Chapter 143 of title 10, United States Code, is amended by adding after section 2423 (as added by section 323) the following new section:

"§ 2424. Procurement of supplies and services from exchange stores outside the United States

"(a) AUTHORITY.—The Secretary of Defense may authorize an element of the Department of Defense to enter into a contract (through the use of procedures other than competitive procedures) with an exchange store operated under the jurisdiction of the Secretary of a military department outside the United States to procure supplies or services for use by the armed forces outside the United States.

"(b) LIMITATIONS.—(1) A contract may not be entered into under subsection (a) in an amount in excess of $50,000.

"(2) Supplies provided under a contract entered into under subsection (a) shall be provided from the stocks of the exchange store on hand as of the date the contract is entered into with that exchange store.

"(3) A contract entered into with an exchange store under subsection (a) may not provide for the procurement of services not regularly provided by that exchange store.".

(b) CLERICAL AMENDMENT.—The table of sections at the beginning of such chapter is amended by adding after the item relating to section 2423 (as added by section 323) the following new item:

"2424. Procurement of supplies and services from exchange stores outside the United States.".

SEC. 325. TUITION-FREE ENROLLMENT OF DEPENDENTS OF CERTAIN EMPLOYEES OF NONAPPROPRIATED FUND INSTRUMENTALITIES IN SCHOOLS OF THE DEFENSE DEPENDENTS' EDUCATION SYSTEM

(a) SPONSOR DEFINED TO INCLUDE CERTAIN EMPLOYEES OF NONAPPROPRIATED FUND INSTRUMENTALITIES.—Section 1414(2) of the Defense Dependents' Education Act of 1978 (20 U.S.C. 932(2)) is amended to read as follows:

"(2) The term 'sponsor' means a person—

"(A) who is—

"(i) a member of the Armed Forces serving on active duty, or

"(ii) a full-time civilian officer or employee of the Department of Defense and a citizen or national of the United States; and

"(B) who is authorized to transport dependents to or from an overseas area at Government expense and is provided an allowance for living quarters in that area.".

(b) CONFORMING AMENDMENT.—Section 1404(d)(1) of such Act (20 U.S.C. 923(d)(1)) is amended by striking out "(including employees of nonappropriated fund activities of the Department of Defense)" in subparagraph (A) and inserting in lieu thereof "(other than civilian officers and employees who are sponsors under section 1414(2))".

(c) EFFECTIVE DATE.—The amendments made by this section shall apply with respect to periods of enrollment in schools of the defense dependents' education system beginning after September 30, 1989. 10 USC 923 note.

SEC. 326. AUTHORITY TO USE APPROPRIATED FUNDS TO SUPPORT STUDENT MEAL PROGRAMS IN DEPARTMENT OF DEFENSE OVERSEAS DEPENDENTS' SCHOOLS

(a) AUTHORITY PROVIDED.—Subchapter I of chapter 134 of title 10, United States Code, is amended by adding at the end the following new section:

"§ 2243. Authority to use appropriated funds to support student meal programs in overseas dependents' schools

"(a) AUTHORITY.—Subject to subsection (b), amounts appropriated to the Department of Defense for the operation of the defense dependents' education system may be used by the Secretary of Defense to enable an overseas meal program to provide students enrolled in that system with meals at a price equal to the average price paid by students for equivalent meals under a comparable public school meal program in the United States.

"(b) LIMITATION.—The authority provided by subsection (a) may be used only if the Secretary of Defense determines that Federal payments and commodities provided under section 20 of the National School Lunch Act (42 U.S.C. 1769b) and section 20 of the Child Nutrition Act of 1966 (42 U.S.C. 1789) to support an overseas meal program are insufficient to provide meals under that program at a price for students equal to the average price paid by students for equivalent meals under a comparable public school meal program in the United States.

"(c) DETERMINING AVERAGE PRICE.—In determining the average price paid by students in the United States for meals under a school meal program, the Secretary of Defense shall exclude free and reduced price meals provided pursuant to income guidelines.

"(d) OVERSEAS MEAL PROGRAM DEFINED.—In this section, the term 'overseas meal program' means a program administered by the Secretary of Defense to provide breakfasts or lunches to students attending Department of Defense dependents' schools which are located outside the United States.".

(b) CLERICAL AMENDMENT.—The table of sections at the beginning of such subchapter is amended by adding at the end the following new item:

"2243. Authority to use appropriated funds to support student meal programs in overseas dependents' schools.".

SEC. 327. COMMERCIAL SALE OF RECORDING OF AIR FORCE SINGING SERGEANTS

The Secretary of the Air Force may enter into an appropriate contract providing for the production and commercial sale of a recording made on April 9, 1989, by the Cincinnati Pops Orchestra and members of the Air Force known as the United States Air Force Singing Sergeants. Any contract entered into under this section shall contain such provisions as the Secretary considers appropriate to protect the interests of the United States.

Hawaii.

SEC. 328. TRANSPORTATION OF MOTOR VEHICLES OF MILITARY AND CIVILIAN PERSONNEL STATIONED ON JOHNSTON ISLAND

(a) AUTHORITY TO TRANSPORT.—(1) When a member of the Armed Forces or an employee of the Department of Defense is assigned to permanent duty on Johnston Island, one motor vehicle that is owned by the member or employee (or a dependent of the member or employee) may be transported at the expense of the United States to a location in the State of Hawaii from the old duty station of the member or employee (or from a location of lesser distance) if the member or employee designates Hawaii as the State in which the immediate family of the member or employee will reside.

(2) When a member or employee is reassigned from Johnston Island to a new permanent duty station, one motor vehicle that is owned by the member or employee (or a dependent of the member or employee) may be transported at the expense of the United States from the residence in the State of Hawaii of the dependents of the member or employee—

(A) to the new duty station of the member or employee; or

(B) at the request of the member or employee, to such other location not greater than the distance allowed under paragraph (1).

(b) REGULATIONS.—Subsection (a) shall be carried out under regulations prescribed by the Secretary of Defense.

SEC. 329. AUTHORITY TO PROVIDE CERTAIN ASSISTANCE TO ANNUAL CONVENTIONS OF NATIONAL MILITARY ASSOCIATIONS

(a) AUTHORITY.—(1) Chapter 151 of title 10, United States Code, is amended by adding at the end the following new section:

"§ 2548. National military associations: assistance at national conventions

"(a) AUTHORITY TO PROVIDE SERVICES.—The Secretary of a military department may provide services described in subsection (c) in connection with an annual conference or convention of a national military association.

"(b) CONDITIONS FOR PROVIDING SERVICES.—Services may be provided under this section only if—

"(1) the provision of the services in any case is approved in advance by the Secretary concerned;

"(2) the services can be provided in conjunction with training in appropriate military skills; and

"(3) the services can be provided within existing funds otherwise available to the Secretary concerned.

"(c) COVERED SERVICES.—Services that may be provided under this section are—

"(1) limited air and ground transportation;

"(2) communications;

"(3) medical assistance;

"(4) administrative support; and

"(5) security support.

"(d) NATIONAL MILITARY ASSOCIATIONS.—The Secretary of Defense shall designate those organizations which are national military associations for purposes of this section.

"(e) REGULATIONS.—The Secretary of Defense shall prescribe regulations to carry out this section.".

(2) The table of sections at the beginning of such chapter is amended by adding at the end the following new item:

"2548. National military associations: assistance at national conventions.".

(b) EFFECTIVE DATE.—Section 2548 of title 10, United States Code, as added by subsection (a), shall take effect on the date of the enactment of this Act. 10 USC 2548 note.

SEC. 330. AUTHORITY TO LEASE FLEET ELECTRONIC WARFARE SUPPORT AIRCRAFT

Section 328 of the National Defense Authorization Act, Fiscal Year 1989 (Public Law 100-456; 102 Stat. 1957), is amended by striking out "such a lease" and all that follows through the period and inserting in lieu thereof "leasing, operating, and supporting such aircraft is less than the projected costs of operating and maintaining existing aircraft of the Navy for the same activity.".

SEC. 331. ENERGY EFFICIENCY INCENTIVE

Section 736 of the National Defense Authorization Act, Fiscal Year 1989 (102 Stat. 2006; 42 U.S.C. 8287 note), is amended as follows:

(1) In subsection (a), by striking out "first-year energy cost savings (as defined in subsection (d)) realized" and inserting in lieu thereof "energy cost savings realized by the United States during the first five years".

(2) In subsection (b)—

(A) by striking out "First-year energy savings" and inserting in lieu thereof "The energy cost savings realized by the United States in each of the first five years under a contract"; and

(B) by striking out paragraph (1) and inserting in lieu thereof the following:

"(1) One-half of the amount of such savings may be used for the acquisition of energy conserving measures for military installations, and such measures may be in addition to any such energy conserving measures acquired for military installations under contracts entered into under title VIII of the National Energy Conservation Policy Act.".

(3) In subsection (c)—

(A) by striking out "end of the first year" and inserting in lieu thereof "end of each of the first five years"; and

(B) by striking out "first-year energy cost savings realized under the terms of the contract during that year by the military department concerned" and inserting in lieu thereof "energy cost savings realized by the United States under the terms of the contract during that year".

(4) By striking out subsection (d).

SEC. 332. AUTHORITY TO ACQUIRE RAILROAD TRACK STRUCTURE AND TEMPORARY RIGHT-OF-WAY FOR RAIL LINE

Nevada.

The Secretary of the Army may purchase the railroad track structure and temporary right-of-way in the State of Nevada for the railroad line known as the Mina Branch, located between milepost 331.12, near Wabuska, Nevada, and milepost 385.00, near Thorne, Nevada, for use in connection with the operation of Hawthorne Army Ammunition Plant, Nevada. The Secretary may use any funds appropriated pursuant to section 301 for the Army for fiscal year 1990 to carry out the preceding sentence.

SEC. 333. AUTHORIZATION OF LONG-TERM AIRCRAFT SUPPORT CONTRACT

Marshall Islands.

The Secretary of the Army may enter into a long-term contract pursuant to section 2401 of title 10, United States Code, that includes a lease for the provision of air transportation at Kwajalein Atoll, Republic of the Marshall Islands, if—

(1) the contract does not impose a substantial termination liability on the United States within the meaning of section 2401(a)(1)(B) of title 10, United States Code; and

(2) the contract is made subject to the availability of funds for such purpose.

SEC. 334. SERVICE CONTRACT TO TRAIN UNDERGRADUATE NAVAL FLIGHT OFFICERS

In accordance with sections 2304 and 2401 of title 10, United States Code, the Secretary of the Navy may enter into a contract (to commence after September 30, 1990) for services with respect to the training of undergraduate naval flight officers.

Employment and unemployment.

SEC. 335. DEFENSE CONTRACT AUDITORS

The Secretary of Defense, not later than September 30, 1990, shall increase the number of full-time personnel employed by the Defense Contract Audit Agency to 7,457, of which not less than 6,488 shall be auditors.

SEC. 336. UNIFORM ALLOWANCE FOR CIVILIAN EMPLOYEES OF THE DEPARTMENT OF DEFENSE REQUIRED TO WEAR UNIFORMS

(a) ALLOWANCE AUTHORIZED.—(1) Chapter 81 of title 10, United States Code, is amended by adding after section 1592 (as added by section 311(b)) the following new section:

"§ 1593. Uniform allowance: civilian employees

"(a) ALLOWANCE AUTHORIZED.—(1) The Secretary of Defense may pay an allowance to each civilian employee of the Department of Defense who is required by law or regulation to wear a prescribed uniform in the performance of official duties.

"(2) In lieu of providing an allowance under paragraph (1), the Secretary may provide a uniform to a civilian employee referred to in such paragraph.

"(3) This subsection shall not apply with respect to a civilian employee of the Defense Intelligence Agency who is entitled to an allowance under section 1606 of this title.

"(b) AMOUNT OF ALLOWANCE.—Notwithstanding section 5901(a) of title 5, the amount of an allowance paid, and the cost of uniforms provided, under subsection (a) to a civilian employee may not exceed $400 per year.

"(c) TREATMENT OF ALLOWANCE.—An allowance paid, or uniform provided, under subsection (a) shall be treated in the same manner as is provided in section 5901(c) of title 5 for an allowance paid under that section.".

(2) The table of sections at the beginning of such chapter is amended by adding after the item relating to section 1592 (as added by section 311(b)) the following new item:

"1593. Uniform allowance: civilian employees.".

(b) CONFORMING AMENDMENT.—Section 1606(b)(2) of title 10, United States Code, is amended by striking out "$360 per year." and inserting in lieu thereof "The maximum allowance provided under section 1593(b) of this title.".

(c) EFFECTIVE DATE.—The amendments made by this section shall take effect on January 1, 1990. 10 USC 1593 note.

PART D—ARMED FORCES RETIREMENT HOMES Veterans.

SEC. 341. UNITED STATES SOLDIERS' AND AIRMEN'S HOME SUBJECT TO ANNUAL AUTHORIZATIONS OF APPROPRIATIONS

(a) IN GENERAL.—Section 1321(b) of title 31, United States Code, is amended—

(1) by inserting before the period in the third sentence the following: "and only if the appropriations are specifically authorized by law"; and

(2) by striking out the last sentence.

(b) EFFECTIVE DATE.—The amendments made by subsection (a) shall apply with respect to appropriations for the operation of the United States Soldiers' and Airmen's Home made for fiscal years after fiscal year 1990. 10 USC 1321 note.

SEC. 342. MILITARY FINES AND FORFEITURES TO BENEFIT ARMED FORCES RETIREMENT HOMES

(a) IN GENERAL.—(1) Chapter 165 of title 10, United States Code, is amended by inserting after section 2771 the following new section:

"§ 2772. Share of fines and forfeitures to benefit Armed Forces retirement homes

"(a)(1) The Secretary of the Army and the Secretary of the Air Force shall deposit in the Soldiers' Home, permanent fund, referred to in section 1321(a)(59) of title 31 a percentage (determined under paragraph (2)) of the following amounts:

"(A) The amount of fines adjudged against an enlisted member or warrant officer in the Army or the Air Force by sentence of a court-martial or under authority of section 815 of this title (article 15) over and above any amount that may be due from the member or warrant officer for the reimbursement of the United States or any individual.

"(B) The amount of forfeitures on account of the desertion of an enlisted member or warrant officer in the Army or the Air Force.

"(2) The board of commissioners for the United States Soldiers' and Airmen's Home shall determine, on the basis of the financial needs of that home, the percentage of the amounts referred to in paragraph (1) to be deposited in the Soldiers' Home, permanent fund.

"(b)(1) The Secretary of the Navy shall credit to the funds available for the operation of the Naval Home a percentage (determined under paragraph (2)) of the following amounts:

"(A) The amount of fines adjudged against an enlisted member or warrant officer in the Navy, Marine Corps, or Coast Guard (when it is operating as a service in the Navy) by sentence of a court-martial or under authority of section 815 of this title (article 15) over and above any amount that may be due from the member or warrant officer for the reimbursement of the United States or any individual.

"(B) The amount of forfeitures on account of the desertion of an enlisted member or warrant officer in the Navy, Marine Corps, or Coast Guard (when it is operating as a service in the Navy).

"(2) The Governor of the Naval Home shall determine, on the basis of the financial needs of the Naval Home, the percentage of the amounts referred to in paragraph (1) to be credited under such paragraph.".

(2) The table of sections at the beginning of such chapter is amended by inserting after the item relating to section 2771 the following new item:

"2772. Share of fines and forfeitures to benefit Armed Forces retirement homes.".

10 USC 2772 note.

(b) APPLICATION OF AMENDMENTS.—(1) Subsection (a) of section 2772 of such title, as added by subsection (a), shall apply with respect to fines and forfeitures adjudged after the date of the enactment of this Act.

(2) Subsection (b) of such section shall apply with respect to fines and forfeitures adjudged after May 31, 1990.

SEC. 343. DEDUCTIONS FROM THE PAY OF ENLISTED MEMBERS AND WARRANT OFFICERS TO BENEFIT ARMED FORCES RETIREMENT HOMES

(a) IN GENERAL.—Section 1007 of title 37, United States Code, is amended by adding at the end the following new subsection:

"(i)(1) There shall be deducted each month from the pay of each enlisted member and warrant officer of the armed forces on active

duty an amount (determined under paragraph (3)) not to exceed 50 cents.

"(2) Amounts deducted under paragraph (1) shall be—

"(A) deposited in the Soldiers' Home, permanent fund, in the case of deductions from the pay of enlisted members and warrant officers in the Army and Air Force; and

"(B) credited to the funds available for the operation of the Naval Home, in the case of deductions from the pay of enlisted members and warrant officers in the Navy, Marine Corps, or Coast Guard (when it is operating as a service in the Navy).

"(3) The Secretary of Defense, after consultation with the Governor of the Naval Home and the board of commissioners for the United States Soldiers' and Airmen's Home, shall determine from time to time the amount to be deducted under paragraph (1) from the pay of enlisted members and warrant officers on the basis of the financial needs of the homes. The amount to be deducted may be fixed at different amounts on the basis of grade or length of service, or both.

"(4) In this subsection, the term 'armed forces' does not include the Coast Guard when it is not operating as a service in the Navy.

"(5) This subsection does not apply to an enlisted member or warrant officer of a reserve component.".

(b) EFFECTIVE DATE.—(1) Except as provided in paragraph (2), subsection (i) of section 1007 of title 37, United States Code, as added by subsection (a), shall take effect on the first day of the first month beginning after the date of the enactment of this Act. 37 USC 1007 note.

(2) With respect to deductions from the pay of an enlisted member or warrant officer in the Navy, Marine Corps, or Coast Guard (when it is operating as a service in the Navy), such subsection shall take effect on October 1, 1990.

SEC. 344. INSPECTION OF ARMED FORCES RETIREMENT HOMES BY INSPECTOR GENERAL OF THE DEPARTMENT OF DEFENSE

During fiscal year 1990, the Inspector General of the Department of Defense shall—

(1) conduct an inspection of each Armed Forces Retirement Home, including the records of that retirement home; and

(2) submit to the administering authority of that retirement home, the Secretary of Defense, and the Committees on Armed Services of the Senate and House of Representatives a report— Reports.

(A) describing the results of the inspection; and

(B) containing such recommendations as the Inspector General considers appropriate, including any recommendation for future inspections of the retirement homes by the Inspector General.

SEC. 345. REPORT REGARDING IMPROVING THE OPERATION AND MANAGEMENT OF THE ARMED FORCES RETIREMENT HOMES

(a) REPORT REQUIREMENT.—The Secretary of Defense shall submit to the Committees on Armed Services of the Senate and House of Representatives a report with regard to improving the operation and management of the Armed Forces Retirement Homes.

(b) CONTENT OF THE REPORT.—The report required by subsection (a) shall—

(1) address the feasibility of consolidating the administration and management of the retirement homes;

(2) address the feasibility of standardizing (and include proposals to standardize)—

(A) the eligibility requirements for admission to the retirement homes for persons who served as enlisted members or warrant officers in the Armed Forces;

(B) the monthly fees paid by residents of the retirement homes; and

(C) the funding arrangements for the retirement homes through a single trust fund; and

(3) include proposals to administer the retirement homes through a joint board of directors.

(c) PREPARATION OF THE REPORT.—(1) The Secretary shall appoint a board of five members to review the administration and financing of the United States Soldiers' and Airmen's Home and the Naval Home and to prepare the report required by subsection (a).

(2) The members of the board shall be appointed from persons who—

(A) are not officers or employees of the United States; and

(B) are experts in the fields of gerontology, health care, or the provision of care for elderly persons.

(d) EXPENSES OF PREPARATION.—The expenses of preparing the report required by subsection (a) shall be paid in equal amounts out of the funds available for the operation of the United States Soldiers' and Airmen's Home and the Naval Home.

(e) TIME FOR SUBMISSION.—The report required by subsection (a) shall be submitted not later than February 15, 1990.

SEC. 346. DEFINITIONS

For purposes of this part:

(1) The terms "Armed Forces Retirement Home" and "retirement home" mean the United States Soldiers' and Airmen's Home or the Naval Home.

(2) The term "administering authority" means—

(A) the board of commissioners for the United States Soldiers' and Airmen's Home, in the case of that home; and

(B) the Governor of the Naval Home, in the case of that home.

(3) The term "Armed Forces" does not include the Coast Guard when it is not operating as a service in the Navy.

SEC. 347. REPEAL OF SUPERSEDED PROVISIONS RELATING TO THE UNITED STATES SOLDIERS' AND AIRMEN'S HOME

The following provisions of law are repealed:

(1) Sections 4818, 4820, and 4823, and the first and third sentences of section 4819, of the Revised Statutes of the United States (24 U.S.C. 44, 51, 53).

(2) Sections 2 through 6 of the Act entitled "An Act prescribing regulations for the Soldiers' Home located at Washington, in the District of Columbia, and for other purposes", approved March 3, 1883 (22 Stat. 564; 24 U.S.C. 52, 55, 56, 57, 60).

(3) The Act entitled "An Act to authorize the Treasurer of the United States to receive and keep on deposit funds of the Soldiers' Home in the District of Columbia", approved January 16, 1891 (26 Stat. 718; 24 U.S.C. 47).

(4) Section 2(a) of Public Law 94-454 (90 Stat. 1518; 24 U.S.C. 44c).

PART E—ENVIRONMENTAL PROVISIONS

SEC. 351. LIMITATION ON USE OF ENVIRONMENTAL RESTORATION FUNDS Reports.

Of the total amount appropriated pursuant to section 301 for environmental restoration for fiscal year 1990, not more than $517,800,000 may be obligated or expended until the Secretary of Defense submits to the Committees on Armed Services of the Senate and House of Representatives a report describing the manner in which funds for such purpose (up to that limit) have been obligated.

SEC. 352. REQUIREMENT FOR DEVELOPMENT OF ENVIRONMENTAL DATA BASE

(a) ENVIRONMENTAL DATA BASE.—The Secretary of Defense shall develop and maintain a comprehensive data base on environmental activities carried out by the Department of Defense pursuant to, and environmental compliance obligations to which the Department is subject under, chapter 160 of title 10, United States Code, and all other applicable Federal and State environmental laws. At a minimum, the information in the data base shall include all the fines and penalties assessed against the Department of Defense pursuant to environmental laws and paid by the Department, all notices of violations of environmental laws received by the Department, and all obligations of the Department for compliance with environmental laws. The Secretary may include any other information he considers appropriate. 10 USC 2701 note.

(b) REPORT.—Not later than one year after the date of the enactment of this Act, the Secretary of Defense shall submit to the Committees on Armed Services of the Senate and House of Representatives a report on the progress in development of the data base required under subsection (a). The report shall include a summary of the information collected for the data base with respect to environmental activities during 1989.

SEC. 353. FIVE-YEAR PLAN FOR ENVIRONMENTAL RESTORATION AT BASES TO BE CLOSED

(a) PLAN.—The Secretary of Defense shall develop a comprehensive five-year plan for environmental restoration at military installations that will be closed or realigned during fiscal years 1991 through 1995, pursuant to title II of the Defense Authorization Amendments and Base Closure and Realignment Act (Public Law 100-526; 102 Stat. 2627). The plan shall cover— 10 USC 2687 note.

(1) the environmental restoration activities that the Secretary plans to carry out each year at the installations;

(2) the funding requirements needed for such activities; and

(3) such other information as the Secretary considers appropriate.

(b) REPORT.—At the same time the President submits to Congress the budget for fiscal year 1991 (pursuant to section 1105 of title 31, United States Code), the Secretary of Defense shall submit to the Committees on Armed Services of the Senate and House of Representatives a report on the five-year plan required under subsection (a). The report shall include an itemization of the funding requirements specified in the plan for environmental restoration activities during fiscal year 1991.

Hazardous materials.

SEC. 354. FUNDING FOR WASTE MINIMIZATION PROGRAMS FOR CERTAIN INDUSTRIAL-TYPE ACTIVITIES OF THE DEPARTMENT OF DEFENSE

10 USC 2701 note.

(a) REQUIREMENT TO ESTABLISH WASTE MINIMIZATION PROGRAM.—The Secretary of Defense shall require the Secretary of each military department to establish a program for fiscal year 1992 to reduce the volume of solid and hazardous wastes disposed of, and hazardous materials used by, each industrial-type activity within the department that is a depot maintenance installation and for which a working-capital fund has been established under section 2208 of title 10, United States Code.

(b) FUNDING.—Funding for the waste minimization program in each military department shall come out of payments received by the working-capital funds established for industrial-type and commercial-type activities of the department. The level of funding for fiscal year 1992 shall be not less than ½ of 1 percent of the amount of such payments received during fiscal year 1988 that were used for depot maintenance installation functions at industrial-type activities. The required level of funding for fiscal year 1992 may be reduced by amounts expended for waste minimization during fiscal years 1990 and 1991. In any case in which a military department fails to spend funds at the level required by this subsection for the waste minimization program, the Secretary concerned shall submit to Congress a report explaining the reasons for the failure.

Reports.

(c) NOTICE OF EXCLUDED ACTIVITIES.—Not later than 90 days after the date of the enactment of this Act, the Secretary of Defense shall submit to Congress the name of each industrial-type or commercial-type activity of each military department which is not covered by the waste minimization program because the activity does not carry out depot maintenance installation functions.

(d) USE OF FUNDS.—Funds available for the waste minimization programs established pursuant to this section shall be used to carry out waste minimization projects at depot maintenance installations. The types of expenses for which such funds may be used include the following (if such expense is related to a waste minimization project):

(1) Operating expenses (including salaries).
(2) Equipment purchase expenses.
(3) Facility modification expenses.
(4) Process change expenses.
(5) Product substitution expenses.
(6) Military construction expenses.
(7) Research, development, test, and evaluation expenses.
(8) Expenses for the lease of equipment or facilities.

(e) RECOVERY OF COSTS.—Each project carried out at an industrial-type activity as part of a waste minimization program established pursuant to this section shall be designed to achieve, over the expected useful life of the project, reductions in the cost of the disposal of solid and hazardous wastes generated by the activity in an amount which is not less than the cost of the project. The Secretary of a military department may provide funds for a project that does not meet the requirement of the preceding sentence if the Secretary certifies to Congress that—

(1) the project will result in a reduction of solid or hazardous waste disposed of, or hazardous materials used by, the activity; or

(2) the project will eliminate or reduce the likelihood of harm to human health or the environment.

SEC. 355. SENSE OF CONGRESS CONCERNING INVESTIGATION OF SOIL AND WATER CONTAMINATION NEAR MEAD, NEBRASKA

(a) FINDINGS.—Congress finds the following:

(1) The Army Corps of Engineers is carrying out an investigation of soil and water contamination at the former Nebraska Ordnance Plant near Mead, Nebraska.

(2) Solvents, polychlorinated byphenals, Research Department Explosive (RDX), and explosive materials used in making ammunition have been discovered during the course of the investigation.

(b) SENSE OF CONGRESS.—(1) It is the sense of Congress that the Secretary of the Army should carry out the investigation referred to in subsection (a) as promptly as possible consistent with other environmental cleanup responsibilities, and (2) should continue to keep interested parties, including potentially affected residents in the area, University of Nebraska officials, and State and local government personnel, fully advised of developments relating to the investigation and activities at the site.

SEC. 356. USE OF CHLOROFLUOROCARBONS AND HALONS IN THE DEPARTMENT OF DEFENSE

10 USC 2701 note.

(a) CHLOROFLUOROCARBONS EMISSION REDUCTION.—The Secretary of Defense shall formulate and carry out, through the Under Secretary of Defense for Acquisition, a program to reduce the unnecessary release of chlorofluorocarbons (hereinafter in this section referred to as "CFCs") and halons into the atmosphere in connection with maintenance operations and training and testing practices of the Department of Defense.

(b) REPORT.—(1) Not later than 180 days after the date of the enactment of this Act, the Secretary of Defense shall submit to the Committees on Armed Services of the Senate and House of Representatives a report describing the program the Secretary proposes to carry out pursuant to subsection (a). The Secretary shall specify in the report the reduction goals that are attainable on the basis of known technology, including the use of refrigerant recovery systems currently available. The Secretary shall include in the report a schedule for meeting those goals. The Secretary shall also include in such report reduction goals that can be achieved only with the use of new technology and assess the technologies and investment that will be required to attain those goals within a five-year period.

(2) Before the report required under paragraph (1) is submitted to the committees named in such paragraph, the Secretary shall transmit a copy of the report to the Administrator of the Environmental Protection Agency for comment.

(c) DOD REQUIREMENTS FOR CFCs.—(1) Not later than 30 days after the date of the enactment of this Act, the Secretary shall establish an advisory committee to be known as the "CFC Advisory Committee" (hereinafter in this section referred to as the "Committee"). The Committee shall be composed of not more than 15 members, with an equal number of representatives from the Department of Defense, the Environmental Protection Agency, and defense contractors. Members representing defense contractors shall be contractors that supply the Department of Defense with products or equipment that require the use of CFCs.

Establishment.

(2) It shall be the function of the Committee to study (A) the use of CFCs by the Department of Defense and by contractors in the performance of contracts for the Department of Defense, and (B) the cost and feasibility of using alternative compounds for CFCs or using alternative technologies that do not require the use of CFCs.

(3) Within 120 days after the date of the enactment of this Act, the Secretary shall provide the Committee with a list of all military specifications, standards, and other requirements that specify the use of CFCs.

(4) Within 150 days after the date of the enactment of this Act, the Secretary shall provide the Committee with a list of all military specifications, standards, and other requirements that do not specify use of CFCs but cannot be met without the use of CFCs.

(d) REPORT.—Not later than September 30, 1990, the Secretary shall submit to the committees named in subsection (b) a report containing the results of the study by the Committee. The report shall—

(1) identify cases in which the Committee found that substitutes for CFCs could be made most expeditiously;

(2) identify the feasibility and cost of substituting compounds or technologies for CFC uses referred to in subsection (c)(3) and estimate the time necessary for completing the substitution;

(3) identify CFC uses referred to in subsection (c)(4) for which substitutes are not currently available and indicate the reasons substitutes are not available;

(4) describe the types of research programs that should be undertaken to identify substitute compounds or technologies for CFC uses referred to in paragraphs (3) and (4) of subsection (c) and estimate the cost of the program;

(5) recommend procedures to expedite the use of substitute compounds and technologies offered by contractors to replace CFC uses;

(6) estimate the earliest date on which CFCs will no longer be required for military applications; and

(7) estimate the cost of revising military specifications for the use of substitutes for CFCs, the additional costs resulting from modification of Department of Defense contracts to provide for the use of substitutes for CFCs, and the cost of purchasing new equipment and reverification necessitated by the use of substitutes for CFCs.

SEC. 357. ANNUAL REPORT ON DEFENSE BUDGET FOR ENVIRONMENTAL COMPLIANCE

(a) REPORT.—(1) Section 2706 of title 10, United States Code, is amended—

(A) by inserting "(1)" before "The Secretary of Defense" in subsection (a);

(B) by striking out the subsection heading of subsection (b), redesignating paragraphs (1) through (4) of that subsection as subparagraphs (A) through (D), and redesignating such subsection as paragraph (2); and

(C) by adding at the end the following new subsection:

"(b) ENVIRONMENTAL BUDGET REPORT.—(1) Each year, at the same time the President submits to Congress the budget for a fiscal year (pursuant to section 1105 of title 31), the Secretary of Defense shall submit to Congress a report on—

"(A) the funding levels required for the Department of Defense to comply with applicable environmental laws during the fiscal year for which the budget is submitted; and

"(B) the funding levels requested for such purposes in the budget as submitted by the President.

"(2) The Secretary shall include in the report an explanation of any differences in the funding level requirements and the funding level requests in the budget.".

(2)(A) The heading of such section is amended to read as follows:

"§ 2706. Annual reports to Congress".

(B) The item relating to such section in the table of sections at the beginning of chapter 106 of such title is amended to read as follows:

"2706. Annual reports to Congress.".

(b) EFFECTIVE DATE.—The first environmental budget report under subsection (b) of section 2706 of such title (as added by subsection (a)) shall be submitted at the same time the President submits the budget for fiscal year 1992. 10 USC 2706 note.

SEC. 358. REPORT ON ENVIRONMENTAL REQUIREMENTS AND PRIORITIES

(a) REPORT REQUIREMENT.—The Secretary of Defense shall submit to the Committees on Armed Services of the Senate and House of Representatives a comprehensive report on the long-range environmental challenges and goals of the Department of Defense. 10 USC 2701 note.

(b) MATTERS TO BE INCLUDED.—The report under subsection (a) shall include the following:

(1) A discussion of major environmental concerns that the Department of Defense will face world-wide in the next decade, and a qualitative and quantitative assessment, where practicable, of each concern.

(2) A status report of current efforts, programs, resources, and policies used to address the concerns identified under paragraph (1), including the estimated cost, as of the date of the report, of disposing of solid waste and effluent generated by the Department of Defense.

(3) The projected funding for and schedule of actions under the Defense Environmental Restoration Program referred to in section 2701(a)(1) of title 10, United States Code.

(4) An assessment of anticipated Federal, State, and local environmental regulatory requirements and the effects of such requirements on operations and activities of the Department of Defense.

(5) An analysis of all the information described in paragraphs (1) through (4) and a discussion of potential courses of action, priorities, and goals of the Department of Defense, including the adoption of alternative waste minimization and disposal policies, such as requiring the purchase of biodegradable plastics and recycled paper, the recycling of post-consumer waste, and the consumption of ethanol and other alternative fuels.

(6) Such comments and recommendations as the Secretary considers appropriate.

(c) SUBMISSION OF REPORT.—The report required by subsection (a) shall be submitted not later than two years after the date of the enactment of this Act.

SEC. 359. REPORTS ON ENVIRONMENTAL RESTORATION OF JEFFERSON PROVING GROUND, INDIANA

(a) REQUIREMENT.—The Secretary of Defense shall submit to the Committees on Armed Services of the Senate and the House of Representatives three annual reports and a final report on plans and schedules for remediation of the environmental contamination at the Jefferson Proving Ground, Indiana, resulting from the activities of the Department of Defense.

(b) MATTERS TO BE INCLUDED IN FINAL REPORT.—The final report required by subsection (a) shall include the following:

(1) A description of the nature and extent of the environmental contamination, including any contamination resulting from hazardous materials.

(2) A detailed plan to restore all portions of the Jefferson Proving Ground south of the firing line to full and unrestricted use.

(3) A description of all portions of the Jefferson Proving Ground which the Department of Defense does not plan to make available for full and unrestricted use for reasons of liability, costs of cleanup, or any other reason.

(4) A plan to finance the cleanup of the Jefferson Proving Ground, including estimated costs of the cleanup, identification of the sources of funds for cleanup, and a time schedule for implementation of cleanup measures.

(c) CONSULTATION.—The Secretary shall consult with appropriate State and local officials in preparing the reports required by subsection (a).

(d) DEADLINES.—The first annual report required by subsection (a) shall be submitted not later than April 15, 1990. The final report required by subsection (a) shall be submitted not later than April 15, 1993.

Pollution.

SEC. 360. STUDY OF ENVIRONMENTAL DAMAGE TO SHENANDOAH RIVER

(a) STUDY REQUIREMENT.—The Administrator of the Environmental Protection Agency, in consultation with the State of Virginia, shall conduct a study to determine the environmental damage to the Shenandoah River that has resulted, or may be resulting, from activities of any company under contract with the Department of Defense and the National Aeronautics and Space Administration.

(b) MATTERS TO BE STUDIED.—In conducting the study, the Administrator shall determine the following:

(1) The degree of the pollution in the Shenandoah River, and any other environmental effects on the river, attributable to the activities of any company described in subsection (a).

(2) An estimate of the amount of funds and the length of time needed to assure attainment of any water quality standards for the river established under section 303 of the Federal Water Pollution Control Act, to assure protection of public water supplies, and to assure protection and propagation of a balanced, indigenous population of fish (including shellfish) and wildlife.

Reports.

(c) DEADLINES.—The Administrator shall submit to Congress—

(1) a plan for carrying out the study required by this section not later than December 31, 1989;

(2) a progress report on the study not later than June 30, 1990; and

(3) a final report on the study not later than December 31, 1990.

SEC. 361. STUDY OF WASTE RECYCLING

10 USC 2701 note.

(a) STUDY.—The Secretary of Defense shall conduct a study of the following:

(1) Current practices and future plans for managing postconsumer waste at facilities of the Department of Defense at which such waste is generated, including commissary and exchange stores, cafeterias, and mess halls.

(2) The feasibility of such Department of Defense facilities participating in programs at military installations or in local communities to recycle the postconsumer waste generated at the facilities.

(b) POSTCONSUMER WASTE DEFINED.—For purposes of this section, the term "postconsumer waste" means garbage and refuse, including items that have passed through their end use as consumer items.

(c) REPORT.—Not later than one year after the date of the enactment of this Act, the Secretary of Defense shall submit to Congress a report describing the findings and conclusions of the Secretary resulting from the study.

PART F—MISCELLANEOUS REPORTS

SEC. 371. REPORT ON MILITARY USE OF THE INLAND NAVIGATION SYSTEM

Not later than one year after the date of the enactment of this Act, the Secretary of the Army shall submit to Congress a report on the potential for obtaining efficiencies, savings, and enhanced mobilization preparedness through increased use of the national inland waterway system by the Department of Defense and defense industries.

SEC. 372. REPORT ON MANPOWER, MOBILITY, SUSTAINABILITY, AND EQUIPMENT

(a) REPORT REQUIRED.—The Secretary of Defense shall submit to the Committees on Armed Services of the Senate and House of Representatives a comprehensive report on the readiness of the Armed Forces (in terms of manpower, mobility, sustainability, and equipment) to perform their assigned missions. The report shall be based on the manpower and other resources planned for the Armed Forces in the budget for the Department of Defense for fiscal year 1991.

(b) MATTERS TO BE INCLUDED IN REPORT.—The Secretary shall include in the report required by subsection (a) the following:

(1) A detailed analysis of trends in readiness and sustainability of the military forces of the United States over the five-year period 1986 to 1990 and, based on the current Five-Year Defense Program or other planning document approved by the Secretary, a projection of such trends over the succeeding five-year period.

(2) A detailed evaluation of the readiness and sustainability of the unified combatant commands and the specified combatant commands of the Armed Forces.

(3) A discussion of—

(A) the readiness and sustainability of the military forces of the United States in terms of the standards approved by the Secretary of Defense;

(B) the readiness and sustainability of allied forces of the United States; and

(C) the readiness and sustainability of potential enemy forces.

(4) A list of all improvements that need to be made in the readiness and sustainability of the manpower, mobility, and equipment of the Armed Forces to correct major shortfalls of the unified combatant commands and the specified combatant commands, the relative priority of each such improvement, and the estimated cost of each such improvement.

(5) Such other information regarding the readiness of the Armed Forces (in terms of manpower, mobility, sustainability, and equipment) as the Secretary considers appropriate.

(c) PRIORITY FOR IMPROVEMENTS.—The relative priority of the improvements referred to in subsection (b)(4) shall be determined by the Secretary on the basis of the improvements necessary to ensure the ability of the Armed Forces to perform their assigned missions and the ability of the United States to meet its military commitments.

(d) SUBMISSION OF REPORT.—The Secretary shall submit the report required by subsection (a), together with such comments and recommendations as the Secretary considers appropriate, not later than February 15, 1990.

SEC. 373. REPORT ON SECOND SOURCE FOR CARBONIZABLE RAYON YARN

(a) REPORT REQUIRED.—The Secretary of Defense shall submit to the Committees on Armed Services of the Senate and House of Representatives a report on the progress and schedule (including a time certain) for the Department of Defense to establish a certified second production source for carbonizable rayon yarn for use by the Department of Defense and the National Aeronautics and Space Administration on heat shields and rocket nozzles of reentry space vehicles.

(b) TIME FOR SUBMISSION.—The report required by subsection (a) shall be submitted not later than 60 days after the date of the enactment of this Act.

SEC. 374. REPORT ON MILITARY RECRUITING ADVERTISING EXPENDITURES

Not later than 120 days after the date of the enactment of this Act, the Secretary of Defense shall submit to the Committees on Armed Services of the Senate and House of Representatives a report evaluating—

(1) the results of using each of the types of media for military recruiting purposes; and

(2) the anticipated effects on military recruitment of devoting to print media advertising each year a greater portion of the total expenditures made in a year for recruitment advertising.

TITLE IV—MILITARY PERSONNEL AUTHORIZATIONS

PART A—ACTIVE FORCES

SEC. 401. END STRENGTHS FOR ACTIVE FORCES

(a) FISCAL YEAR 1990.—The Armed Forces are authorized strengths for active duty personnel as of September 30, 1990, as follows:

(1) The Army, 764,021, of which not more than 106,001 may be officers.

(2) The Navy, 591,541, of which not more than 72,493 may be officers.

(3) The Marine Corps, 197,159, of which not more than 20,110 may be officers.

(4) The Air Force, 567,474, of which not more than 102,200 may be officers.

(b) FISCAL YEAR 1991.—The Armed Forces are authorized strengths for active duty personnel as of September 30, 1991, as follows:

(1) The Army, 763,721, of which not more than 105,675 may be officers.

(2) The Navy, 591,541, of which not more than 72,313 may be officers.

(3) The Marine Corps, 197,159, of which not more than 20,108 may be officers.

(4) The Air Force, 562,415, of which not more than 102,069 may be officers.

SEC. 402. REDUCTION FOR FISCAL YEAR 1991 IN NUMBER OF AIR FORCE COLONELS

10 USC 523 note.

The number of officers that (but for this section) would be authorized under section 523 of title 10, United States Code, and other applicable provisions of law to be serving on active duty in the Air Force in the grade of colonel during fiscal year 1991 is hereby reduced by 250.

SEC. 403. TEMPORARY INCREASE IN OFFICER GRADE LIMITATIONS

(a) AUTHORITY TO INCREASE NUMBERS FOR FISCAL YEARS 1990 AND 1991.—The Secretary of Defense may increase the strength-in-grade limitations specified in section 523(a) of title 10, United States Code, by a total of 250 positions, to be distributed among grades and services as the Secretary considers appropriate. Any increase pursuant to the preceding sentence in an otherwise applicable limitation shall expire, as specified by the Secretary, not later than September 30, 1991.

10 USC 523 note.

(b) REPORT ON GRADE TABLE RESTRICTIONS.—The Secretary of Defense shall submit to the Committees on Armed Services of the Senate and House of Representatives a comprehensive report on the adequacy of the strength-in-grade limitations prescribed in section 523(a) of title 10, United States Code. The report shall particularly address how those limitations affect the ability of the Department of Defense to recruit and retain nurses and other health professionals for service on active duty. The report shall include such recommendations as the Secretary considers appropriate and shall be submitted not later than March 1, 1990.

PART B—RESERVE FORCES

SEC. 411. END STRENGTHS FOR SELECTED RESERVE

10 USC 261 note.

(a) FISCAL YEAR 1990.—The Armed Forces are authorized strengths for Selected Reserve personnel of the reserve components as of September 30, 1990, as follows:

(1) The Army National Guard of the United States, 458,000.
(2) The Army Reserve, 321,700.
(3) The Naval Reserve, 153,400.
(4) The Marine Corps Reserve, 44,000.
(5) The Air National Guard of the United States, 116,200.
(6) The Air Force Reserve, 84,900.
(7) The Coast Guard Reserve, 15,000.

(b) FISCAL YEAR 1991.—The Armed Forces are authorized strengths for Selected Reserve personnel of the reserve components as of September 30, 1991, as follows:

(1) The Army National Guard of the United States, 458,500.
(2) The Army Reserve, 323,100.
(3) The Naval Reserve, 155,000.
(4) The Marine Corps Reserve, 44,100.
(5) The Air National Guard of the United States, 116,300.
(6) The Air Force Reserve, 85,200.
(7) The Coast Guard Reserve, 15,150.

(c) WAIVER AUTHORITY.—The Secretary of Defense may vary an end strength authorized by subsection (a) or subsection (b) by not more than 2 percent.

(d) ADJUSTMENTS.—The end strengths prescribed by subsection (a) or (b) for the Selected Reserve of any reserve component shall be proportionately reduced by—

(1) the total authorized strength of units organized to serve as units of the Selected Reserve of such component which are on active duty (other than for training) at the end of the fiscal year, and

(2) the total number of individual members not in units organized to serve as units of the Selected Reserve of such component who are on active duty (other than for training or for unsatisfactory participation in training) without their consent at the end of the fiscal year.

Whenever such units or such individual members are released from active duty during any fiscal year, the end strength prescribed for such fiscal year for the Selected Reserve of such reserve component shall be proportionately increased by the total authorized strength of such units and by the total number of such individual members.

SEC. 412. END STRENGTHS FOR RESERVES ON ACTIVE DUTY IN SUPPORT OF THE RESERVES

(a) FISCAL YEAR 1990.—Within the end strengths prescribed in section 411(a), the reserve components of the Armed Forces are authorized, as of September 30, 1990, the following number of Reserves to be serving on full-time active duty, or in the case of members of the National Guard, full-time National Guard duty, for the purpose of organizing, administering, recruiting, instructing, or training the reserve components:

(1) The Army National Guard of the United States, 26,164.
(2) The Army Reserve, 13,680.
(3) The Naval Reserve, 22,708.
(4) The Marine Corps Reserve, 2,301.

(5) The Air National Guard of the United States, 8,517.
(6) The Air Force Reserve, 686.

(b) FISCAL YEAR 1991.—Within the end strengths prescribed in section 411(b), the reserve components of the Armed Forces are authorized, as of September 30, 1991, the following number of Reserves to be serving on full-time active duty or, in the case of members of the National Guard, full-time National Guard duty for the purpose of organizing, administering, recruiting, instructing, or training the reserve components:

(1) The Army National Guard of the United States, 26,514.
(2) The Army Reserve, 14,027.
(3) The Naval Reserve, 23,565.
(4) The Marine Corps Reserve, 2,401.
(5) The Air National Guard of the United States, 8,468.
(6) The Air Force Reserve, 700.

SEC. 413. INCREASE IN NUMBER OF MEMBERS IN CERTAIN GRADES AUTHORIZED TO BE ON ACTIVE DUTY IN SUPPORT OF THE RESERVES

(a) SENIOR ENLISTED MEMBERS.—(1) The table in section 517(b) of title 10, United States Code, is amended to read as follows:

"Grade	Army	Navy	Air Force	Marine Corps
E-9	542	200	224	13
E-8	2,504	425	637	74".

(2) Effective on October 1, 1990, that table is amended to read as follows:

"Grade	Army	Navy	Air Force	Marine Corps
E-9	557	202	231	13
E-8	2,585	429	670	74".

(b) OFFICERS.—(1) The table in section 524(a) of such title is amended to read as follows:

"Grade	Army	Navy	Air Force	Marine Corps
Major or Lieutenant Commander	3,030	1,065	575	110
Lieutenant Colonel or Commander	1,448	520	476	75
Colonel or Navy Captain	351	188	190	25"

(2) Effective on October 1, 1990, that table is amended to read as follows: Effective date.

"Grade	Army	Navy	Air Force	Marine Corps
Major or Lieutenant Commander	3,219	1,071	575	110
Lieutenant Colonel or Commander	1,524	520	532	75
Colonel or Navy Captain	364	188	194	25".

PART C—MILITARY TRAINING STUDENT LOADS

SEC. 421. AUTHORIZATION OF TRAINING STUDENT LOADS

(a) FISCAL YEAR 1990.—For fiscal year 1990, the components of the Armed Forces are authorized average military training student loads as follows:

(1) The Army, 79,667.
(2) The Navy, 67,224.
(3) The Marine Corps, 21,656.
(4) The Air Force, 39,575.
(5) The Army National Guard of the United States, 19,168.
(6) The Army Reserve, 15,377.
(7) The Naval Reserve, 3,237.
(8) The Marine Corps Reserve, 4,179.
(9) The Air National Guard of the United States, 2,941.
(10) The Air Force Reserve, 1,752.

(b) FISCAL YEAR 1991.—For fiscal year 1991, the components of the Armed Forces are authorized average military training student loads as follows:

(1) The Army, 74,760.
(2) The Navy, 66,517.
(3) The Marine Corps, 22,235.
(4) The Air Force, 37,757.
(5) The Army National Guard of the United States, 18,667.
(6) The Army Reserve, 15,963.
(7) The Naval Reserve, 3,259.
(8) The Marine Corps Reserve, 4,178.
(9) The Air National Guard of the United States, 2,939.
(10) The Air Force Reserve, 1,774.

(c) ADJUSTMENTS.—The average military student loads authorized in subsections (a) and (b) shall be adjusted consistent with the end strengths authorized in parts A and B. The Secretary of Defense shall prescribe the manner in which such adjustment shall be apportioned.

PART D—AUTHORIZATIONS OF APPROPRIATIONS

SEC. 431. AUTHORIZATION OF APPROPRIATIONS FOR MILITARY PERSONNEL FOR FISCAL YEAR 1990

There is hereby authorized to be appropriated to the Department of Defense for military personnel for fiscal year 1990 a total of $78,780,742,000. The authorization in the preceding sentence supersedes any other authorization of appropriations (definite or indefinite) for such purpose for fiscal year 1990.

TITLE V—MILITARY PERSONNEL

PART A—RESERVE COMPONENTS MATTERS

SEC. 501. DELAYED ENTRY PROGRAM AND DELAYED ENTRY TRAINING PROGRAM FOR RESERVISTS

(a) DELAYED ENTRY PROGRAM ENLISTMENTS.—(1) Chapter 31 of title 10, United States Code, is amended by inserting after section 512 the following new section:

"§ 513. Enlistments: Delayed Entry Program

"(a) A person with no prior military service who is qualified under section 505 of this title and applicable regulations for enlistment in a regular component of an armed force may (except as provided in subsection (c)) be enlisted as a Reserve for service in the Army Reserve, Naval Reserve, Air Force Reserve, Marine Corps Reserve, or Coast Guard Reserve for a term of not less than six years nor more than eight years.

"(b) Unless sooner ordered to active duty under chapter 39 of this title or another provision of law, a person enlisted under paragraph (1) shall, within 365 days after such enlistment, be discharged from the reserve component in which enlisted and immediately be enlisted in the regular component of an armed force. During the period beginning on the date on which the person enlists under subsection (a) and ending on the date on which the person is enlisted in a regular component under the preceding sentence, the person shall be in the Ready Reserve of the armed force concerned.

"(c) A person who is under orders to report for induction into an armed force under the Military Selective Service Act (50 U.S.C. App. 451 et seq.), except as provided in clause (ii) or (iii) of section 6(c)(2)(A) of that Act, may not be enlisted under paragraph (1).

"(d) This section shall be carried out under regulations to be prescribed by the Secretary of Defense or the Secretary of Transportation with respect to the Coast Guard when it is not operating as a service in the Navy.". Regulations.

(2) The table of sections at the beginning of such chapter is amended by inserting after the item relating to section 512 the following new item:

"513. Enlistments: Delayed Entry Program.".

(b) EXEMPTION OF DEP ENLISTEES FROM READY RESERVE TRAINING REQUIREMENTS.—Section 270(a) of title 10, United States Code, is amended by inserting "or 513" after "section 269(b)" in the first sentence.

(c) LIMITATION ON CREDITING DEP SERVICE FOR LONGEVITY FOR PAY.—Subsection (e) of section 205 of title 37, United States Code, is amended to read as follows:

"(e)(1) Notwithstanding subsection (a), a period of service described in paragraph (2) of a member who enlists in a reserve component may not be counted under this section.

"(2) Paragraph (1) applies to the following service:

"(A) Service performed while a member of a reserve component under an enlistment under section 511(b) or 511(d) of title 10 before the member begins service on active duty under such section (including a period of active duty for training) unless the member performs inactive-duty training before beginning service on active duty or active duty for training;

"(B) Service performed while a member of a reserve component under an enlistment under section 513 of title 10 (other than a period of active duty to which the member is ordered under chapter 39 of title 10 or another provision of law).".

SEC. 502. ANNUAL MUSTER DUTY AND MUSTER DUTY PAY FOR READY RESERVISTS

(a) ORDER TO ANNUAL MUSTER DUTY.—(1) Chapter 39 of title 10, United States Code, is amended by inserting after section 686 the following new section:

"§ 687. Ready Reserve: muster duty

"(a) Under regulations prescribed by the Secretary of Defense, a member of the Ready Reserve may be ordered without his consent to muster duty one time each year. A member ordered to muster duty under this section shall be required to perform a minimum of two hours of muster duty on the day of muster.

"(b) The period which a member may be required to devote to muster duty under this section, including round-trip travel to and from the location of that duty, may not total more than one day each calendar year.

"(c) Except as specified in subsection (d), muster duty (and travel directly to and from that duty) under this section shall be treated as the equivalent of inactive-duty training (and travel directly to and from that training) for the purposes of this title and the provisions of title 37 (other than section 206(a)) and title 38, including provisions relating to the determination of eligibility for and the receipt of benefits and entitlements provided under those titles for Reserves performing inactive-duty training and for their dependents and survivors.

"(d) Muster duty under this section shall not be credited in determining entitlement to, or in computing, retired pay under chapter 67 of this title.".

(2) The table of sections at the beginning of such chapter is amended by inserting after the item relating to section 686 the following new item:

"687. Ready Reserve: muster duty.".

(b) ALLOWANCE FOR ANNUAL MUSTER DUTY.—(1) Chapter 7 of title 37, United States Code, is amended by adding at the end the following new section:

"§ 433. Allowance for muster duty

"(a) Under uniform regulations prescribed by the Secretaries concerned, a member of the Ready Reserve who is not a member of the National Guard or of the Selected Reserve is entitled to an allowance for muster duty performed pursuant to section 691 of title 10 if the member is engaged in that duty for at least two hours.

"(b) The amount of the allowance under this section shall be 125 percent of the amount of the average per diem rate for the United States (other than Alaska and Hawaii) under section 404(d)(2)(A) of this title as in effect on September 30 of the year preceding the year in which the muster duty is performed.

"(c) The allowance authorized by this section may not be disbursed in kind and shall be paid to the member on or before the date on which the muster duty is performed. The allowance shall constitute the single, flat-rate monetary allowance authorized for the perform-

ance of muster duty and shall constitute payment in full to the member, regardless of grade or rank in which serving, as commutation for travel to the immediate vicinity of the designated muster duty location, transportation, subsistence, and the special or extraordinary costs of enforced absence from home and civilian pursuits, including such absence on weekends and holidays.

"(d) A member who performs muster duty is not entitled to compensation for inactive-duty training under section 206(a) of this title for the same period.".

(2) The table of sections at the beginning of such chapter is amended by adding at the end the following new item:

"433. Allowance for muster duty.".

SEC. 503. THREE-YEAR EXTENSION OF CERTAIN RESERVE OFFICER MANAGEMENT PROGRAMS

(a) GRADE DETERMINATION AUTHORITY FOR CERTAIN RESERVE MEDICAL OFFICERS.—Sections 3359(b) and 8359(b) of title 10, United States Code, are each amended by striking "September 30, 1989" and inserting in lieu thereof "September 30, 1992".

(b) PROMOTION AUTHORITY FOR CERTAIN RESERVE OFFICERS SERVING ON ACTIVE DUTY.—(1) Sections 3380(d) and 8380(d) of such title are each amended by striking out "September 30, 1989" and inserting in lieu thereof "September 30, 1992".

(2) The Secretary of the Army or the Secretary of the Air Force, as appropriate, shall provide, in the case of a Reserve officer appointed to a higher grade on or after the date of the enactment of this Act under an appointment described in paragraph (3), that the date of rank of such officer under that appointment shall be the date of rank that would have applied to the appointment had the authority referred to in that paragraph not lapsed. 10 USC 3380 note.

(3) An appointment referred to in paragraph (2) is an appointment under 3380 or 8380 of title 10, United States Code, that (as determined by the Secretary concerned) would have been made during the period beginning on October 1, 1989, and ending on the date of the enactment of this Act had the authority to make appointments under that section not lapsed during such period. 10 USC 3380 note.

(c) YEARS OF SERVICE FOR MANDATORY TRANSFER TO THE RETIRED RESERVE.—Effective as of October 1, 1989, section 1016(d) of the Department of Defense Authorization Act, 1984 (10 U.S.C. 3360 note), is amended by striking out "September 30, 1989" and inserting in lieu thereof "September 30, 1992". Effective date.

SEC. 504. TWO-YEAR EXTENSION OF AUTHORITY FOR CERTAIN SINGLE PARENTS TO ENLIST IN RESERVE COMPONENTS

Section 523(d) of the National Defense Authorization Act for Fiscal Year 1987 (10 U.S.C. 510 note) is amended by striking out "September 30, 1989" and inserting in lieu thereof "September 30, 1991".

SEC. 505. TWO-YEAR PROGRAM OF SPECIAL UNIT ASSIGNMENT PAY FOR ENLISTED MEMBERS OF SELECTED RESERVE

(a) SPECIAL PAY.—(1) Chapter 5 of title 37, United States Code, is amended by inserting after section 308c the following new section:

"§ 308d. Special pay: enlisted members of the Selected Reserve assigned to certain high priority units

Regulations.

"(a) Under regulations prescribed by the Secretary of Defense, an enlisted member who is assigned to a high priority unit of the Selected Reserve of the Ready Reserve of an armed force, as designated under subsection (b), and who performs inactive duty for training for compensation under section 206 of this title with such unit may be paid compensation, in addition to the compensation to which the member is otherwise entitled, in an amount not to exceed $10 for each regular period of instruction, or period of appropriate duty, at which the member is engaged for at least four hours, including any such instruction or duty performed on a Sunday or holiday.

"(b) The Secretary concerned may designate a unit, for the purposes of subsection (a) and under such terms and conditions as the Secretary considers appropriate, as a high priority unit if that unit has experienced, or reasonably might be expected to experience, critical personnel shortages. The Secretary may vacate a designation made under this subsection at any time he considers the designation no longer necessary.

"(c) Additional compensation may not be paid under this section for inactive duty performed after September 30, 1991.".

(2) The table of sections at the beginning of such chapter is amended by adding after the item relating to section 308c the following new item:

"308d. Special pay: enlisted members of the Selected Reserve assigned to certain high priority units.".

10 USC 30.d note.

(b) REPORT.—The Secretary of Defense shall submit to the Committees on Armed Services of the Senate and House of Representatives a report on the administration of the special pay program provided for in section 308d of title 37, United States Code, as added by subsection (a). The report shall be submitted not later than May 1, 1991, and shall include such comments and recommendations as the Secretary considers appropriate.

SEC. 506. MILITARY EDUCATION FOR CIVILIAN TECHNICIANS OF THE ARMY NATIONAL GUARD

10 USC 709 note.

(a) BATTLE SKILLS COURSES.—A civilian technician of the Army National Guard may not be denied a military promotion because of the failure of the technician to attend the Battle Skills Course if the technician has requested in writing to attend such a course and has not been selected to attend a course that would permit completion of the course within one year after such request. If a civilian technician receives a military promotion before the technician has completed the Battle Skills Course, the technician shall complete that course within one year after the date of the promotion.

(b) TREATMENT OF TRAINING UNDER EARLIER PROGRAMS.—For purposes of any reserve component noncommissioned officers education program established for the training of civilian technicians of the Army National Guard, the Secretary of the Army shall accept as meeting the requirements of that program—

(1) training completed by a civilian technician before October 1, 1987, through courses known as—

(A) Primary Leadership Development courses;

(B) Basic Noncommissioned Officers courses; and

(C) Advanced Noncommissioned Officers courses; and

(2) an abbreviated course to update leadership training, knowledge of doctrine, and tactical skills.

(c) PLAN.—(1) The Secretary of the Army shall submit to the Committees on Armed Services of the Senate and House of Representatives a plan to use State and National Guard Bureau regional academies by October 1, 1993, to provide the portion of the Reserve Component Noncommissioned Officers Education System specifically related to military occupational specialties. Such plan shall also identify personnel, funds, and other resources required to implement the plan.

(2) The Secretary of the Army shall submit the plan required by paragraph (1) not later than April 1, 1990.

(d) AMENDMENT.—Section 523 of Public Law 100-456 (102 Stat. 1974) is amended by striking out "shall" in subsections (a) and (c) and inserting in lieu thereof "may, at the technician's option,". 32 USC 709 note.

PART B—OTHER MATTERS

SEC. 511. INCREASE IN SERVICE OBLIGATION FOR GRADUATES OF THE SERVICE ACADEMIES AND THE UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES

(a) UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES.—Section 2114(b) of title 10, United States Code, is amended by striking out "seven years" in the fourth sentence and inserting in lieu thereof "10 years".

(b) MILITARY ACADEMY.—Section 4348(a)(2)(B) of such title is amended by striking out "five years" and inserting in lieu thereof "six years".

(c) NAVAL ACADEMY.—Section 6959(a)(2)(B) of such title is amended by striking out "five years" and inserting in lieu thereof "six years".

(d) AIR FORCE ACADEMY.—Section 9348 of such title is amended by striking out "five years" and inserting in lieu thereof "six years".

(e) EFFECTIVE DATE.—The amendments made by this section shall apply to persons who are first admitted to the Uniformed Services University of the Health Sciences or one of the military service academies after December 31, 1991. 10 USC 2114 note.

SEC. 512. EXTENSION OF AUTHORITY TO MAKE TEMPORARY PROMOTIONS OF CERTAIN NAVY LIEUTENANTS

(a) THREE-YEAR EXTENSION.—Section 5721(f) of title 10, United States Code, is amended by striking out "September 30, 1989" and inserting in lieu thereof "September 30, 1992".

(b) SAVINGS PROVISION.—(1) The Secretary of the Navy shall provide, in the case of an officer appointed to the grade of lieutenant commander on or after the date of the enactment of this Act under an appointment described in paragraph (2), that the date of rank of such officer under that appointment shall be the date of rank that would have applied to the appointment had the authority referred to in that paragraph not lapsed. 10 USC 5721 note.

(2) An appointment referred to in paragraph (1) is an appointment under 5721 of title 10, United States Code, that (as determined by the Secretary of the Navy) would have been made during the period beginning on October 1, 1989, and ending on the date of the enactment of this Act had the authority to make appointments under that section not lapsed during such period.

SEC. 513. TESTING OF NEW ENTRANTS FOR DRUG AND ALCOHOL ABUSE

(a) AUTHORITY TO TEST BEFORE ACCESSION.—Subsection (a) of section 978 of title 10, United States Code, is amended—

(1) by redesignating paragraph (2) as paragraph (3); and

(2) by striking out paragraph (1) and inserting in lieu thereof the following:

"(1) The Secretary concerned shall require that, except as provided under paragraph (2), each person applying for an original enlistment or appointment in the armed forces shall be required, before becoming a member of the armed forces, to—

"(A) undergo testing (by practicable, scientifically supported means) for drug and alcohol use; and

"(B) be evaluated for drug and alcohol dependency.

"(2) The Secretary concerned may provide that, in lieu of undergoing the testing and evaluation described in paragraph (1) before becoming a member of the armed forces, a member of the armed forces under the Secretary's jurisdiction may be administered that testing and evaluation after the member's initial entry on active duty. In any such case, the testing and evaluation shall be carried out within 72 hours of the member's initial entry on active duty.".

(b) CONFORMING AMENDMENTS.—(1) Subsection (b) of such section is amended to read as follows:

"(b) A person who refuses to consent to testing and evaluation required by subsection (a) may not (unless that person subsequently consents to such testing and evaluation)—

"(1) be accepted for an original enlistment in the armed forces or given an original appointment as an officer in the armed forces; or

"(2) if such person is already a member of the armed forces, be retained in the armed forces.

An original appointment of any such person as an officer shall be terminated.".

(2) Subsection (c) of such section is amended—

(A) by redesignating paragraphs (1) and (2) as paragraphs (2) and (3), respectively;

(B) by inserting at the beginning of the subsection the following new paragraph (1):

"(1) A person determined, as the result of testing conducted under subsection (a)(1), to be dependent on drugs or alcohol shall be denied entrance into the armed forces.";

(C) in paragraph (2) (as so redesignated), by striking out "subsection (a)(1)(B)" and inserting in lieu thereof "subsection (a)(2)"; and

(D) in paragraph (3) (as so redesignated)—

(i) by inserting "who is denied entrance into the armed forces under paragraph (1), or a" after "A person"; and

(ii) by striking out "paragraph (1)" and inserting in lieu thereof "paragraph (2),".

(c) EXCESS LEAVE STATUS FOR PERSONS TESTING POSITIVE.—Subsection (c) of such section, as amended by subsection (b), is further amended by adding at the end the following new paragraph:

"(4) The Secretary concerned may place on excess leave any member of the armed forces whose test results under subsection (a)(2) are positive for drug or alcohol use. The Secretary may continue such member's status on excess leave pending disposition of the member's case and processing for administrative separation.".

(d) TRANSITION PROVISION.—The amendments made by subsections (a) and (b) shall take effect as of October 1, 1989. Effective date. 10 USC 978 note.

SEC. 514. CORRECTION OF MILITARY RECORDS CONCERNING PROMOTIONS AND ENLISTMENTS OF ENLISTED MEMBERS

(a) AUTHORITY OF SERVICE SECRETARIES.—Subsection (a) of section 1552 of title 10, United States Code, is amended to read as follows:

"(a)(1) The Secretary of a military department may correct any military record of the Secretary's department when the Secretary considers it necessary to correct an error or remove an injustice. Except as provided in paragraph (2), such corrections shall be made by the Secretary acting through boards of civilians of the executive part of that military department. The Secretary of Transportation may in the same manner correct any military record of the Coast Guard.

"(2) The Secretary concerned is not required to act through a board in the case of the correction of a military record announcing a decision that a person is not eligible to enlist (or reenlist) or is not accepted for enlistment (or reenlistment) or announcing a decision not to promote an enlisted member to a higher grade. Such a correction may be made only if the correction is favorable to the person concerned.

"(3) Corrections under this section shall be made under procedures established by the Secretary concerned. In the case of the Secretary of a military department, those procedures must be approved by the Secretary of Defense.

"(4) Except when procured by fraud, a correction under this section is final and conclusive on all officers of the United States.".

(b) TIME FOR REQUEST FOR CORRECTION.—Subsection (b) of such section is amended by striking out "subsection (a)" both places it appears and inserting in lieu thereof "subsection (a)(1)".

SEC. 515. TITLE OF ADMISSIONS OFFICER OF UNITED STATES AIR FORCE ACADEMY

(a) CHANGE IN TITLE OF REGISTRAR.—Chapter 903 of title 10, United States Code, is amended as follows:

(1) Section 9331(b)(6) is amended by striking out "registrar" and inserting in lieu thereof "director of admissions".

(2) Section 9333(c) is amended by striking out "registrar" and inserting in lieu thereof "director of admissions".

(3) Section 9334(b) is amended by striking out "registrar" and inserting in lieu thereof "director of admissions".

(4) Section 9336(b) is amended by striking out "registrar" each place it appears and inserting in lieu thereof "director of admissions".

(b) CLERICAL AMENDMENTS.—(1) The heading of section 9336 of such title is amended to read as follows:

"§ 9336. Permanent professors; director of admissions".

(2) The item relating to such section in the table of sections at the beginning of chapter 903 of such title is amended to read as follows:

"9336. Permanent professors; director of admissions.".

SEC. 516. ELIGIBILITY FOR PRISONER OF WAR MEDAL

(a) EXTENSION TO MEMBERS HELD BY HOSTILE FORCES.—Section 1128(a) of title 10, United States Code, is amended—

(1) by striking out "or" at the end of paragraph (2);

(2) by striking out the period at the end of paragraph (3) and inserting in lieu thereof "; or"; and

(3) by adding at the end the following new paragraph:

"(4) by foreign armed forces that are hostile to the United States, under circumstances which the Secretary concerned finds to have been comparable to those under which persons have generally been held captive by enemy armed forces during periods of armed conflict.".

10 USC 1128 note.

(b) EFFECTIVE DATE.—Paragraph (4) of section 1128(a) of title 10, United States Code, as added by subsection (a), applies with respect to periods of captivity after April 5, 1917.

SEC. 517. GAO REPORT ON TECHNICAL TRAINING FOR RECRUITS AND MEMBERS OF THE RESERVE COMPONENTS

(a) REPORT REGARDING PROVISION OF TECHNICAL TRAINING.—The Comptroller General of the United States shall prepare a report on various options for providing technical training for military recruits and members of the reserve components. The report shall evaluate the practicality and desirability of—

(1) providing persons who desire to enlist in the Armed Forces with technical training either before enlistment or immediately after enlistment;

(2) using civilian institutions of higher education and vocational schools to provide such training; and

(3) using civilian institutions of higher education and vocational schools to provide training in individual technical skills for members of the reserve components.

(b) MATTERS TO BE INCLUDED IN REPORT.—The report required by subsection (a) shall include the following:

(1) A comparison of (A) technical skills training provided by the Armed Forces, with (B) technical skills training available in civilian institutions of higher education and vocational schools.

(2) A description of a program by which a person eligible for enlistment in the Armed Forces would receive technical training in, or under contract with, an institution of higher education or vocational school (and a stipend to pursue such training) (A) before enlistment in exchange for a commitment to serve in the Armed Forces, or (B) immediately after basic training.

(3) A description of any personnel savings and other savings that could result from the implementation of such a program.

(4) A description of a program by which institutions of higher education and vocational schools would enhance the readiness of the reserve components by supplementing active-duty individual skills training.

(5) A description of the specific training improvements, if any, that could result from the implementation of such a program.

(6) A description of a demonstration project to test such a program, on a limited basis as determined in consultation with the Secretary of Defense, together with a description of the cost of such demonstration project.

(c) SUBMISSION OF REPORT.—The Comptroller General shall submit the report required by subsection (a) to the Committees on Armed Services of the Senate and House of Representatives not later than February 1, 1991.

(d) DEFINITIONS.—For purposes of this section:

(1) The term "technical training" means training in noncombat skills in technical fields, including electricity, machinery, welding, surveying, journalism, and photography.

(2) The terms "institution of higher education" and "vocational school" have the meanings given those terms in section 435 of the Higher Education Act of 1965 (20 U.S.C. 1085).

SEC. 518. PROVISION OF OFF-DUTY POSTSECONDARY EDUCATION SERVICES OVERSEAS

Section 1212 of the Department of Defense Authorization Act, 1986 (10 U.S.C. 113 note), is amended—

(1) by striking out subsections (c) and (e); and

(2) by inserting after subsection (b) the following new subsection (c):

"(c)(1) The Secretary of Defense shall conduct a study to determine the current and future needs of members of the Armed Forces, civilian employees of the Department of Defense, and the dependents of such members and employees for postsecondary education services at overseas locations. The Secretary shall determine on the basis of the results of that study whether the policies and procedures of the Department in effect on the date of the enactment of the Department of Defense Authorization Act for Fiscal Years 1990 and 1991 with respect to the procurement of such services are—

"(A) consistent with the provisions of subsections (a) and (b);

"(B) adequate to ensure the recipients of such services the benefit of a choice in the offering of such services; and

"(C) adequate to ensure that persons stationed at geographically isolated military installations or at installations with small complements of military personnel are adequately served.

The Secretary shall complete the study in such time as necessary to enable the Secretary to submit the report required by paragraph (2)(A) by the deadline specified in that paragraph.

"(2)(A) The Secretary shall submit to the Committees on Armed Services of the Senate and the House of Representatives a report on the results of the study referred to in paragraph (1), together with a copy of any revisions in policies and procedures made as a result of such study. The report shall be submitted not later than March 1, 1990. Reports

"(B) The Secretary shall include in the report an explanation of how determinations are made with regard to—

"(i) affording members, employees, and dependents a choice in the offering of courses of postsecondary education; and

"(ii) whether the services provided under a contract for such services should be limited to an installation, theater, or other geographic area.

"(3)(A) Except as provided in subparagraph (B), no contract for the provision of services referred to in subsection (a) may be awarded, and no contract or agreement entered into before the date of the enactment of this paragraph may be renewed or extended on or after such date, until the end of the 60-day period beginning on the date on which the report referred to in paragraph (2)(A) is received by the committees named in that paragraph.

"(B) A contract or an agreement in effect on October 1, 1989, for the provision of postsecondary education services in the European Theater for members of the Armed Forces, civilian employees of the Department of Defense, and the dependents of such members and

employees may be renewed or extended without regard to the limitation in subparagraph (A).

"(C) In the case of a contract for services with respect to which a solicitation is pending on the date of the enactment of this paragraph, the contract may be awarded—

"(i) on the basis of the solicitation as issued before the date of the enactment of this paragraph;

"(ii) on the basis of the solicitation issued before the date of the enactment of this paragraph modified so as to conform to any changes in policies and procedures the Secretary determines should be made as a result of the study required under paragraph (1); or

"(iii) on the basis of a new solicitation.".

SEC. 519. MATTERS TO BE CONSIDERED BY PROMOTION BOARDS IN CASE OF OFFICERS IN HEALTH PROFESSIONS COMPETITIVE CATEGORIES

Section 615 of title 10, United States Code, is amended by adding at the end the following new subsection:

Regulations.

"(d) The Secretary of each military department, under uniform regulations prescribed by the Secretary of Defense, shall include in guidelines furnished to a selection board convened under section 611(a) of this title that is considering officers in a health-professions competitive category for promotion to a grade below colonel or, in the case of the Navy, captain, a direction that the board give consideration to an officer's clinical proficiency and skill as a health professional to at least as great an extent as the board gives to the officer's administrative and management skills.".

SEC. 520. REPORT ON CONSTRUCTIVE CREDIT FOR NURSES

(a) REPORT REQUIREMENT.—The Secretary of Defense shall prepare a report on the awarding of constructive credit to military nurses for education, training, or experience. The report shall discuss existing provisions of law providing for such constructive credit, including a discussion of any inequities which the Secretary considers that such provisions may have created. If the Secretary determines that any such inequities have been created, the report shall include recommendations by the Secretary for ways to eliminate or reduce those inequities.

(b) SUBMISSION OF REPORT.—The report required by subsection (a) shall be submitted to the Committees on Armed Services of the Senate and House of Representatives not later than March 1, 1990.

TITLE VI—COMPENSATION AND OTHER PERSONNEL BENEFITS

PART A—PAY AND ALLOWANCES

SEC. 601. MILITARY PAY RAISE FOR FISCAL YEAR 1990

37 USC 1009 note.

(a) WAIVER OF SECTION 1009 ADJUSTMENT.—Any adjustment required by section 1009 of title 37, United States Code, in elements of compensation of members of the uniformed services to become effective during fiscal year 1990 shall not be made.

37 USC 1009 note.

(b) INCREASE IN BASIC PAY, BAS, AND BAQ.—The rates of basic pay, basic allowance for subsistence, and basic allowance for quarters of members of the uniformed services are increased by 3.6 percent effective on January 1, 1990.

(c) INCREASE IN CADET AND MIDSHIPMAN PAY.—Effective on January 1, 1990, section 203(c)(1) of title 37, United States Code, is amended by striking out "$525" and inserting in lieu thereof "$543.90". Effective date.

SEC. 602. LIMITATION ON ADJUSTMENTS IN VARIABLE HOUSING ALLOWANCE

(a) LIMITATION.—Section 403a(c)(2) of title 37, United States Code, is amended by inserting before the period the following: ", except that the monthly amount of a variable housing allowance for a member may not be reduced to the extent that the total of basic pay, basic allowance for quarters, basic allowance for subsistence, and variable housing allowance of the member is reduced, as a result of such a reduction, below the monthly total of those items for the month preceding the effective date of the most recent increase in the rate of basic pay of the member".

(b) EFFECTIVE DATE.—The amendment made by subsection (a) shall take effect on October 1, 1990. 37 USC 403a note.

PART B—BONUSES AND SPECIAL AND INCENTIVE PAY

SEC. 611. INCREASE IN SELECTIVE REENLISTMENT BONUS

(a) INCREASE IN SELECTIVE REENLISTMENT BONUS.—Section 308(a) of title 37, United States Code, is amended—

(1) by striking out "paid a bonus," in paragraph (1) and all that follows in that paragraph and inserting in lieu thereof "paid a bonus as provided in paragraph (2).";

(2) by redesignating paragraph (2) as paragraph (4) and in that paragraph striking out "of this subsection"; and

(3) by inserting after paragraph (1) the following new paragraphs:

"(2) The bonus to be paid under paragraph (1) may not exceed the lesser of the following amounts:

"(A) The amount equal to the product of—

"(i) ten times the monthly rate of basic pay to which the member was entitled at the time of the discharge or release of the member; and

"(ii) the number of years (or the monthly fractions thereof) of the term of reenlistment or extension of enlistment, not to exceed six.

"(B) $45,000.

"(3) Any portion of a term of reenlistment or extension of enlistment of a member that, when added to the total years of service of the member at the time of discharge or release, exceeds 16 years may not be used in computing a bonus under paragraph (2)(A).".

(b) EFFECTIVE DATE.—The amendments made by this section shall apply with respect to reenlistment and extension of enlistment agreements entered into under section 308(a) of title 37, United States Code, after September 30, 1989. 37 USC 308 note.

SEC. 612. ENLISTMENT BONUS FOR MEMBERS IN SKILLS DESIGNATED AS CRITICAL

(a) INCREASE IN AUTHORIZED BONUS AND FIRST INSTALLMENT.—Section 308a(a) of title 37, United States Code, is amended—

(1) by striking out "$8,000" in the first sentence and inserting in lieu thereof "$12,000"; and

(2) by striking out "$5,000" in the second sentence and inserting in lieu thereof "$7,000".

37 USC 308a note.

(b) LIMITATION ON PAYMENTS.—The total amount of payments made during fiscal year 1990 under section 308a(a) of title 37, United States Code, by the Secretary of the Army may not exceed $66,400,000.

37 USC 308a note.

(c) EFFECTIVE DATE.—The amendments made by subsection (a) shall apply with respect to an enlistment or extension of an initial period of active duty (in a skill designated as critical) entered into on or after October 1, 1989.

SEC. 613. EXTENSION OF ENLISTMENT AND REENLISTMENT BONUS AUTHORITIES FOR RESERVE FORCES

Sections 308b(g), 308c(f), 308e(e), 308g(h), 308h(g), and 308i(i) of title 37, United States Code, are amended by striking out "September 30, 1990" and inserting in lieu thereof "September 30, 1992".

SEC. 614. EXTENSION OF SPECIAL PAY PROGRAMS FOR NUCLEAR-QUALIFIED OFFICERS

(a) SPECIAL PAY FOR OFFICERS EXTENDING PERIOD OF ACTIVE DUTY.—Section 312(e) of title 37, United States Code, is amended by striking out "September 30, 1990" and inserting in lieu thereof "September 30, 1995".

(b) ACCESSION BONUS.—Section 312b(d) of such title is amended by striking out "September 30, 1990" and inserting in lieu thereof "September 30, 1995".

(c) ANNUAL INCENTIVE BONUS.—Section 312c of such title is amended—

(1) by striking out "ending before October 1, 1990" in subsections (a)(1) and (b)(1); and

(2) by striking out "October 1, 1990" in subsection (e) and inserting in lieu thereof "October 1, 1995".

PART C—TRAVEL AND TRANSPORTATION ALLOWANCES

SEC. 621. REIMBURSEMENT FOR CERTAIN FEES INCURRED IN TRAVEL

(a) REIMBURSEMENT AUTHORIZED.—Section 404 of title 37, United States Code, is amended by adding at the end the following new subsection:

Regulations.

"(i) Under uniform regulations prescribed by the Secretaries concerned, a member of a uniformed service entitled to travel and transportation allowances under subsection (a) is entitled to reimbursement for parking fees, ferry fares, and bridge, road, and tunnel tolls actually incurred incident to such travel.".

37 USC 404 note.

(b) EFFECTIVE DATE.—The amendment made by subsection (a) shall apply with respect to travel and transportation commenced after the date of the enactment of this Act.

SEC. 622. LUMP-SUM PAYMENT OF OVERSEAS HOUSING COSTS

(a) PAYMENTS AUTHORIZED.—Section 405 of title 37, United States Code, is amended by adding at the end the following new subsection:

"(d) In the case of a member of the uniformed services authorized to receive a per diem allowance under subsection (a), the Secretary concerned may make a lump-sum payment for nonrecurring expenses incurred by the member in occupying private housing outside of the United States. Expenses for which payments are made under

this subsection may not be considered for purposes of determining the per diem allowance of the member under subsection (a).".

(b) EFFECTIVE DATE.—The amendment made by subsection (a) shall apply with respect to expenses incurred after August 31, 1990. 37 USC 405 note.

SEC. 623. CLARIFICATION OF ALLOWANCE FOR TRANSPORTATION OF HOUSEHOLD EFFECTS

(a) WAIVER FOR SUBSTANTIAL HARDSHIP.—Section 406(b)(1) of title 37, United States Code, is amended by adding at the end the following new subparagraph:

"(D) In connection with the change of temporary or permanent station of a member in a pay grade below pay grade O–6, the Secretary concerned may authorize a higher weight allowance than the weight allowance determined under subparagraph (C) for the member if the Secretary concerned determines that the application of the weight allowance determined under such subparagraph would result in significant hardship to the member or the dependents of the member. An increase in weight allowance under this subparagraph may not result in a weight allowance exceeding the weight allowance specified in subparagraph (C) for pay grades O–6 to O–10. The Secretary of Defense shall prescribe regulations to carry out this subparagraph.". Regulations.

(b) TECHNICAL AMENDMENT.—Subparagraph (C) of such section is amended by inserting "in pounds" after "weight allowance" in the matter preceding the table.

(c) EFFECTIVE DATE.—The authority provided in subparagraph (D), as added by subsection (a), shall apply with respect to the transportation of baggage and household effects occurring after June 30, 1989. 37 USC 406 note.

SEC. 624. TRAVEL ENTITLEMENT FOR MEMBERS ASSIGNED TO A VESSEL UNDER CONSTRUCTION

(a) AUTHORIZATION FOR TRAVEL ALLOWANCE.—(1) Chapter 7 of title 37, United States Code, is amended by inserting after section 406b the following new section:

"§ 406c. Travel and transportation allowances: members assigned to a vessel under construction

"(a) ALLOWANCE AUTHORIZED.—(1) Under regulations prescribed by the Secretary concerned, a member of the uniformed services who is assigned to permanent duty aboard a ship that is under construction at a location other than— Regulations.

"(A) the designated home port of the ship; or

"(B) the area where the dependents of the member are residing,

is entitled to transportation, or an allowance for transportation under section 404(d)(3) of this title, for round-trip travel from the port of construction to either of those locations as provided in paragraph (2).

"(2) A member referred to in paragraph (1) shall be entitled to such transportation or allowance on or after the thirty-first day (and every sixtieth day after the thirty-first day) after the later of—

"(A) the date on which the ship enters the construction port; and

"(B) the date on which the member becomes permanently assigned to the ship.

"(3) The amount of reimbursement for personally procured transportation or the allowance for transportation under this subsection may not exceed the cost of Government-procured commercial round-trip air travel.

"(b) DEPENDENTS TRAVEL.—(1) In lieu of the entitlement of a member of the uniformed services to transportation under subsection (a), the Secretary concerned may provide transportation in kind, reimbursement for personally procured transportation, or a monetary allowance in place of the cost of transportation as provided in section 404(d)(1) of this title for the travel of the dependents of the member from the location that was the home port of the ship before commencement of construction to the port of construction.

"(2) The total reimbursement for transportation for the member's dependents under paragraph (1) may not exceed the cost of Government-procured commercial round-trip travel.

"(c) CHANGE OF HOME PORT.—In any case in which a member of the uniformed services assigned to permanent duty aboard a ship that undergoes a change of home port to the port at which the ship is being constructed, the dependents of such member may be provided the transportation allowances prescribed in subsections (a) and (b) in lieu of the transportation authorized by section 406 of this title and section 2634 of title 10.

"(d) APPLICATION OF OTHER LAW.—Section 420 of this title does not apply with respect to transportation or allowances provided under this section.".

(2) The table of sections at the beginning of such chapter is amended by inserting after the item relating to section 406b the following new item:

"406c. Travel and transportation allowances: members assigned to a vessel under construction.".

(b) CLARIFYING AMENDMENT.—Subsection (c) of section 406b of such title is amended to read as follows:

"(c) In any case in which a member of the uniformed services is assigned to permanent duty aboard a ship that undergoes a change of home port to the overhaul or inactivation port, the dependents of the member may be provided transportation allowances prescribed in subsections (a) and (b) in lieu of the transportation authorized by section 406 of this title and section 2634 of title 10.".

SEC. 625. STUDENT TRAVEL AUTHORIZED FOR DEPENDENTS OF MEMBERS IN ALASKA AND HAWAII

(a) AUTHORIZATION FOR DEPENDENT CHILDREN.—Section 430 of title 37, United States Code, is amended—

(1) in subsection (a)—

(A) by striking out "United States" in paragraphs (1) and (3) and inserting in lieu thereof "continental United States"; and

(B) by striking out "oversea" in paragraph (2);

(2) in subsection (b)—

(A) by striking out "United States" each place it appears and inserting in lieu thereof "continental United States"; and

(B) by striking out "in the oversea area" and inserting in lieu thereof "outside the continental United States"; and

(3) by adding at the end the following new subsections:

"(d) For a member assigned to duty outside the continental United States, transportation under this section may be provided a dependent child as described in subsection (a)(3) who is attending a school in Alaska or Hawaii.

"(e) The transportation allowance authorized by this section (whether transportation in kind or reimbursement) may not be paid in the case of a member assigned to a permanent duty station in Alaska or Hawaii for a child attending a school in the State of the permanent duty station.

"(f) In this section, the term 'continental United States' means the 48 contiguous States and the District of Columbia.".

(b) EFFECTIVE DATE.—The amendments made by subsection (a) shall apply with respect to travel and transportation commenced after the date of the enactment of this Act. 37 USC 440 note.

PART D—MILITARY AVIATORS

SEC. 631. AVIATION CAREER INCENTIVE PAY

(a) ENTITLEMENT REQUIREMENTS.—Subsection (a)(4) of section 301a of title 37, United States Code, is amended—

(1) by striking out "6 of the first 12, and 11 of the first 18 years of his aviation service." in the first sentence and inserting in lieu thereof "9 of the first 12, and 12 of the first 18 years of the aviation service of the officer.";

(2) by striking out "at least 9 but less than 11 of the first 18 years of his aviation service, he" in the second sentence and inserting in lieu thereof "at least 10 but less than 12 of the first 18 years of the aviation service of the officer, the officer"; and

(3) by striking out "his officer service" in the second sentence and inserting in lieu thereof "the officer's service as an officer".

(b) WAIVER OF ENTITLEMENT REQUIREMENTS BY THE SECRETARY CONCERNED.—Subsection (a)(5) of such section is amended by inserting after the first sentence the following new sentence: "For the needs of the service, the Secretary concerned may permit, on a case by case basis, an officer to continue to receive continuous monthly incentive pay despite the failure of the officer to perform the prescribed operational flying duty requirements during the prescribed periods of time so long as the officer has performed those requirements for not less than 6 years of aviation service.".

(c) MONTHLY RATES.—(1) Subsection (b)(1) of such section is amended—

(A) by striking out "400" in the portion of the table designated as Phase I and inserting in lieu thereof "650"; and

(B) by striking out the portion of the table designated as Phase II and inserting in lieu thereof the following:

"Phase II

"Years of service as an officer:	Monthly rate:
Over 18	$585
Over 20	495
Over 22	385
Over 25	250".

(2) Subsection (b)(2) of such section is amended by striking out "400" in the table and inserting in lieu thereof "650".

(d) REPORT ON NUMBER OF OFFICERS RECEIVING A WAIVER.—Such section is further amended by adding at the end the following new subsection:

"(f) The Secretary of Defense shall submit annually to Congress a report specifying for the year covered by the report—

"(1) the total number of officers who were determined under subsection (a)(5) to have failed to perform the minimum prescribed operational flying duty requirements;

"(2) the number of those officers who continued to receive continuous monthly incentive pay despite their failure to perform the minimum prescribed operational flying duty requirements and the extent to which they failed to perform those requirements; and

"(3) the reasons for the exercise of the authority under the second sentence of subsection (a)(5) in the case of each officer specified pursuant to paragraph (2).".

37 USC 301a note.

(e) EFFECTIVE DATE.—(1) Except as provided in paragraph (2), the amendments made—

(A) by subsection (c) shall take effect on the date of the enactment of this Act; and

(B) by subsections (a), (b), and (d) shall take effect on October 1, 1991.

(2) The Secretary of a military department may delay, subject to the approval of the Secretary of Defense, the implementation of the amendments made by subsection (c) with respect to the department of that Secretary until such time as the Secretary concerned determines that implementation of those amendments is necessary to meet the needs of that department.

(3) If the Secretary of a military department delays under paragraph (2) the implementation of the amendments made by subsection (c) beyond October 1, 1991, the Secretary may also delay implementation of the amendments made by subsections (a), (b), and (d) until the date on which the Secretary implements the amendments made by subsection (c). During the delay in implementation, the provisions of section 301a of title 37, United States Code, as in effect on the day before the date of the enactment of this Act, shall continue to apply in the case of such department to the payment of aviation career incentive pay under such section.

37 USC 301a note.

(f) TRANSITION.—(1) An officer of a uniformed service who, as of the date the amendments made by subsections (a), (b), and (d) take effect with regard to the officer's uniformed service—

(A) has completed years of aviation service in an amount equal to one of the number of years of aviation service specified in column 1 of the following table; and

(B) has performed, or subsequently performs, the prescribed operational flying duties (including flight training but excluding proficiency flying) during the number of years of aviation service specified in column 2 of such table and corresponding to the number of years of aviation service applicable to the officer under column 1,

shall be entitled to continuous monthly incentive pay at the rates provided in section 301a(b) of title 37, United States Code (as amended by this section) until the officer completes the years of service as an officer specified in column 3 of such table and applicable to the officer.

TABLE

COLUMN 1	COLUMN 2	COLUMN 3
Number of years of aviation service	Number of years performing operational flying duty	Entitlement to continuous monthly incentive pay through the following year of officer service
6 or more	At least 6 of the first 12 years of aviation service	18
6 or more	At least 9 but less than 11 of the first 18 years of aviation service	22
6 or more	At least 6 of the first 12 and at least 11 of the first 18 years of aviation service	25
At least 6 but less than 12	Less than 6 and subsequently completes 6 of the first 12 and 9 of the first 15 years of aviation service	18
At least 12 but less than 18	Less than 9 and subsequently completes 9 of the first 18 years of aviation service	22
At least 12 but less than 18	Less than 11 and subsequently completes 11 of the first 18 years of aviation service	25

(2) For purposes of this subsection, the terms "operational flying duty" and "proficiency flying duty" have the meaning given to such terms in section 301a(a)(6) of title 37, United States Code.

SEC. 632. AVIATOR RETENTION BONUSES

(a) EXTENSION AND CODIFICATION OF CURRENT PROGRAM.—Section 301b of title 37, United States Code, is amended to read as follows:

"§ 301b. Special pay: aviation career officers extending period of active duty

"(a) BONUS AUTHORIZED.—An aviation officer described in subsection (b) who, during the period beginning on January 1, 1989, and ending on September 30, 1991, executes a written agreement to remain on active duty in aviation service for at least one year may, upon the acceptance of the agreement by the Secretary concerned, be paid a retention bonus as provided in this section.

"(b) COVERED OFFICERS.—An aviation officer referred to in subsection (a) is an officer of a uniformed service who—

"(1) is entitled to aviation career incentive pay under section 301a of this title;

"(2) is in an aviation specialty designated by the Secretary concerned (with the approval of the Secretary of Defense in the case of the Secretary of a military department) as a critical aviation specialty;

"(3) is in a pay grade below pay grade 0–6;

"(4) is qualified to perform operational flying duty;

"(5) has completed at least six but less than 13 years of active duty; and

"(6) has completed any active duty service commitment incurred for undergraduate aviator training.

"(c) AMOUNT OF BONUS.—The amount of a retention bonus paid under this section may not be more than—

"(1) $12,000 for each year covered by the written agreement, if the officer agrees to remain on active duty to complete 14 years of commissioned service; or

"(2) $6,000 for each year covered by the written agreement, if the officer agrees to remain on active duty for one or two years.

"(d) PRORATION.—The term of an agreement under subsection (a) and the amount of the bonus under subsection (c) may be prorated as long as such agreement does not extend beyond the date on which the officer making such agreement would complete 14 years of commissioned service.

"(e) PAYMENT OF BONUS.—Upon the acceptance of a written agreement under subsection (a) by the Secretary concerned, the total amount payable pursuant to the agreement becomes fixed and may be paid by the Secretary in either a lump sum or installments.

"(f) ADDITIONAL PAY.—A retention bonus paid under this section is in addition to any other pay and allowances to which an officer is entitled.

"(g) REPAYMENT OF BONUS.—(1) If an officer who has entered into a written agreement under subsection (a) and has received all or part of a retention bonus under this section fails to complete the total period of active duty specified in the agreement, the Secretary concerned may require the officer to repay the United States, on a pro rata basis and to the extent that the Secretary determines conditions and circumstances warrant, all sums paid under this section.

"(2) An obligation to repay the United States imposed under paragraph (1) is for all purposes a debt owed to the United States.

"(3) A discharge in bankruptcy under title 11 that is entered less than 5 years after the termination of a written agreement entered into under subsection (a) does not discharge the officer signing the agreement from a debt arising under such agreement or under paragraph (1). This paragraph applies to any case commenced under title 11 after January 1, 1989.

"(h) REGULATIONS.—The Secretaries concerned shall prescribe regulations to carry out this section. Regulations prescribed by the Secretary of a military department shall be subject to the approval of the Secretary of Defense.

"(i) REPORTS.—(1) Not later than February 15 of each year, the Secretaries concerned shall submit to the Secretary of Defense a report analyzing the effect of the provision of retention bonuses to aviation officers during the preceding fiscal year on the retention of qualified aviators. Each report shall include—

"(A) a comparison of the cost of paying bonuses to officers who enter into an agreement for the period referred to in subsection (c)(1) with the cost of paying bonuses to officers who enter into an agreement for a period referred to in subsection (c)(2);

"(B) a description of the increase in the retention of qualified aviators as a result of the program; and

"(C) an examination of the desirability of targeting the retention bonus program toward officers in a critical aviation specialty rather than on the basis of experience or other criteria.

"(2) Not later than March 15 of each year, the Secretary of Defense shall submit to the Committees on Armed Services of the Senate and House of Representatives copies of the reports submitted to the Secretary under paragraph (1) with regard to the preceding

fiscal year, together with such comments and recommendations as the Secretary considers appropriate.

"(j) LIMITATION ON PAYMENTS FOR FISCAL YEAR 1990.—(1) The total amount of payments made under this section to officers of the Air Force during fiscal year 1990 may not exceed $78,000,000.

"(2) The total amount of payments made under this section to officers of the Navy during fiscal year 1990 may not exceed $30,000,000.

"(k) DEFINITIONS.—In this section:

"(1) The term 'aviation service' means the service performed by an officer holding an aeronautical rating or designation (except a flight surgeon or other medical officer).

"(2) The term 'aviation specialty' means a community of pilots identified by type of aircraft or weapon system or a community of other designated aeronautical officers so identified.

"(3) The term 'critical aviation specialty' means an aviation specialty in which there exists a shortage of officers on the date of designation under subsection (b).

"(4) The term 'operational flying duty' has the meaning given such term in section 301a(a)(6)(A) of this title.".

(b) CONFORMING AMENDMENT.—Section 611 of the National Defense Authorization Act, Fiscal Year 1989 (Public Law 100-456; 102 Stat. 1977), is amended by striking out subsection (e).

37 USC 301b note.

(c) AGREEMENTS ENTERED INTO UNDER THE FORMER LAW.—(1) The amendment made by subsection (a) shall not affect an agreement entered into under section 301b of title 37, United States Code (as in effect on September 30, 1989), and, except as provided in paragraph (2), the provisions of such section as in effect on such day shall continue to apply with respect to such agreement.

(2) For pay periods beginning after September 30, 1989, an officer serving under an agreement entered into under section 301b of such title before October 1, 1987, shall be entitled during the remainder of the agreement to the monthly rate of aviation career incentive pay specified in section 301a(b) of such title and corresponding to the officer's years of aviation service or years of service as an officer.

37 USC 301b note.

(d) COVERAGE OF PERIOD OF LAPSED AUTHORITY.—(1) In the case of an aviation officer described in paragraph (2) who executes an agreement under section 301b of title 37, United States Code, during the 90-day period beginning on the date of the enactment of this Act, the Secretary concerned may deem such agreement to have been executed and accepted for purposes of such section on the first date on which the officer would have qualified for such an agreement had the amendment made by subsection (a) taken effect on October 1, 1989.

(2) An aviation officer referred to in paragraph (1) is an officer who, during the period beginning on October 1, 1989, and ending on the date of the enactment of this Act, would have qualified for an agreement under such section had the amendment made by subsection (a) taken effect on October 1, 1989.

(3) For purposes of this subsection, the term "Secretary concerned" has the meaning given that term by section 101(5) of title 37, United States Code.

SEC. 633. REDUCTION IN NONOPERATIONAL FLYING DUTY POSITIONS

(a) REDUCTIONS REQUIRED.—(1) Not later than September 30, 1991, the Secretary of Defense shall reduce the number of nonoperational

flying duty positions in the Armed Forces to a number equal to not more than 98 percent of the total number of such positions in existence on September 30, 1989.

(2) Not later than September 30, 1992, the Secretary of Defense shall reduce the number of nonoperational flying duty positions in the Armed Forces to a number equal to not more than 95 percent of the total number of such positions in existence on September 30, 1989.

(b) LIMITATION ON INCREASES IN NONOPERATIONAL FLYING DUTY POSITIONS.—No increase in the number of nonoperational flying duty positions in the Armed Forces (as a percentage of all flying duty positions in the Armed Forces) may be made after September 30, 1992, unless the increase is specifically authorized by law.

(c) DEFINITIONS.—For purposes of this section:

(1) The term "Armed Forces" does not include the Coast Guard.

(2) The term "nonoperational flying duty position" means a position in a military department identified by the Secretary of that department as a position that—

(A) requires the assignment of an aviator; and

(B) does not include operational flying duty (as defined in section 301a(6)(A) of title 37, United States Code).

SEC. 634. MINIMUM SERVICE REQUIREMENT FOR AVIATORS

(a) IN GENERAL.—(1) Chapter 37 of title 10, United States Code, is amended by adding at the end the following new section:

"§ 653. Minimum service requirement for certain flight crew positions

"(a) PILOTS.—The minimum active duty obligation of any member who successfully completes training in the armed forces as a pilot shall be 8 years, if the member is trained to fly fixed-wing jet aircraft, and 6 years, if the member is trained to fly any other type of aircraft.

"(b) NAVIGATORS AND NAVAL FLIGHT OFFICERS.—The minimum active duty obligation of any member who successfully completes training in the armed forces as a navigator or naval flight officer shall be 6 years.

"(c) DEFINITION.—In this section, the term 'active duty obligation' means the period of active duty required to be served after—

"(1) completion of undergraduate pilot training in the case of training as a pilot;

"(2) completion of undergraduate navigator training in the case of training as a navigator; or

"(3) completion of undergraduate training as a naval flight officer in the case of training as a naval flight officer.".

(2) The table of sections at the beginning of such chapter is amended by adding at the end the following new item:

"653. Minimum service requirement for certain flight crew positions.".

10 USC 653 note.

(b) EFFECTIVE DATE.—(1) Except as provided in paragraphs (2) and (3), section 653 of title 10, United States Code, as added by subsection (a)(1), shall apply to persons who begin undergraduate pilot training, undergraduate navigator training, or undergraduate naval flight officer training, as the case may be, after September 30, 1990.

(2) Such section shall apply to persons who graduate from the United States Military Academy, the United States Naval Academy,

the United States Air Force Academy, and the Coast Guard Academy after December 31, 1991, and to persons who satisfactorily complete the academic and military requirements of the Senior Reserve Officers' Training Corps program (provided for in chapter 103 of title 10, United States Code) after December 31, 1991.

(3) The minimum service requirements provided for such section shall not apply in the case of any person who entered into an agreement with the Secretary concerned before October 1, 1990, and who is obligated under the terms of such agreement to serve on active duty for a period less than the applicable period specified in section 653 of such title.

(4) For purposes of this subsection, the term "Secretary concerned" has the meaning given that term in section 101(8) of title 10, United States Code.

SEC. 635. REPORT ON LIFE INSURANCE

(a) REPORT REQUIRED.—Not later than November 15, 1990, the Secretary of Defense shall submit to the Congress a report evaluating the adequacy of the current Servicemen's Group Life Insurance program and the practicability and desirability of providing an accidental death insurance plan for aviators and other aviation crew members serving on active duty that provides for the payment of death benefits in the amount of $100,000 for death resulting directly from the performance of operational flying duty. The report shall include a legislative proposal containing the recommendations of the Secretary following such evaluation and a recommendation on the advisability of providing an accidental death insurance plan for other members of the Armed Forces on active duty in an occupational specialty characterized as hazardous.

(b) DEFINITION.—For purposes of subsection (a), the term "operational flying duty" has the meaning given to that term in section 301a(a)(6)(A) of title 37, United States Code.

SEC. 636. REPORT ON AVIATOR ASSIGNMENT POLICIES AND PRACTICES

Not later than September 15, 1990, the Comptroller General of the United States shall submit to the Committees on Armed Services of the Senate and House of Representatives a report evaluating the aviator assignment policies and practices of the Armed Forces. The report shall include an analysis of the effectiveness and efficiency of the aviator assignment policies and practices of the Armed Forces, including an analysis of the policies and practices followed in accommodating the assignment preferences of aviators within operational needs of the Armed Forces.

SEC. 637. SENSE OF CONGRESS REGARDING ESTABLISHMENT OF COMMISSION TO CONDUCT A STUDY ON THE NATIONAL SHORTAGE OF AVIATORS

(a) ESTABLISHMENT OF COMMISSION.—In view of the critical shortage of qualified aviators in both the Armed Forces and in the commercial airline industry of the United States, it is the sense of Congress that the President should establish a commission to study the reasons for such shortages and to consider effective and practicable means of eliminating the shortages.

(b) MEMBERS OF THE COMMISSION.—A commission established by the President pursuant to subsection (a) should include as members—

(1) representatives from the commercial airline industry;

(2) representatives from the commercial and general aviation pilots organizations;

(3) representatives from the Department of Defense;

(4) representatives from the Department of Transportation; and

(5) representatives from such other sources as the President considers appropriate.

(c) TIME OF APPOINTMENT.—The President should appoint all members of the commission not later than February 15, 1990.

(d) REPORT.—The commission should submit a report on the results of its study to the President and Congress not later than March 1, 1991, together with specific recommendations for eliminating the shortage of aviators in the United States.

PART E—MONTGOMERY GI BILL AMENDMENTS

SEC. 641. INCREASE IN AMOUNT PAYABLE UNDER MONTGOMERY GI BILL FOR CRITICAL SPECIALTIES

Section 1415(c) of title 38, United States Code, is amended by striking out "$400 per month" and inserting in lieu thereof "$400 per month, in the case of an individual who first became a member of the Armed Forces before the date of the enactment of the National Defense Authorization Act for Fiscal Years 1990 and 1991, or $700 per month, in the case of an individual who first became a member of the Armed Forces on or after that date".

SEC. 642. PAYMENTS FOR VOCATIONAL-TECHNICAL TRAINING UNDER RESERVE-COMPONENT GI BILL

(a) IN GENERAL.—Section 2131(c)(1) of title 10, United States Code, is amended to read as follows:

"(c)(1) Educational assistance may be provided under this chapter for pursuit of any program of education that is an approved program of education for purposes of chapter 30 of title 38 other than a program of education in a course of instruction beyond the baccalaureate degree level.".

(b) AMOUNT OF ASSISTANCE.—Section 2131 of such title is amended—

(1) in subsection (b)—

(A) by striking out "Each" and inserting in lieu thereof "Except as provided in subsections (d) through (f), each"; and

(B) by inserting ", through the Secretary of Veterans Affairs," after "Secretary concerned"; and

(2) by adding at the end the following:

"(d)(1) Except as provided in paragraph (2), the amount of the monthly educational assistance allowance payable to a person pursuing a full-time program of apprenticeship or other on-the-job training under this chapter is—

"(A) for each of the first six months of the person's pursuit of such program, 75 percent of the monthly educational assistance allowance otherwise payable to such person under this chapter;

"(B) for each of the second six months of the person's pursuit of such program, 55 percent of such monthly educational assistance allowance; and

"(C) for each of the months following the first 12 months of the person's pursuit of such program, 35 percent of such monthly educational assistance allowance.

"(2) In any month in which any person pursuing a program of education consisting of a program of apprenticeship or other on-the-job training fails to complete 120 hours of training, the amount of the monthly educational assistance allowance payable under this chapter to the person shall be limited to the same proportion of the applicable full-time rate as the number of hours worked during such month, rounded to the nearest 8 hours, bears to 120 hours.

"(3)(A) Except as provided in subparagraph (B), for each month that such person is paid a monthly educational assistance allowance under this chapter, the person's entitlement under this chapter shall be charged at the rate of—

"(i) 75 percent of a month in the case of payments made in accordance with paragraph (1)(A);

"(ii) 55 percent of a month in the case of payments made in accordance with paragraph (1)(B); and

"(iii) 35 percent of a month in the case of payments made in accordance with paragraph (1)(C).

"(B) Any such charge to the entitlement shall be reduced proportionately in accordance with the reduction in payment under paragraph (2).

"(e)(1) The amount of the monthly educational assistance allowance payable to a person pursuing a cooperative program under this chapter shall be 80 percent of the monthly allowance otherwise payable to such person under this chapter.

"(2) For each month that a person is paid a monthly educational assistance allowance for pursuit of a cooperative program under this chapter, the person's entitlement under this chapter shall be charged at the rate of 80 percent of a month.

"(f)(1)(A) The amount of the educational assistance allowance payable under this chapter to a person who enters into an agreement to pursue, and is pursuing, a program of education exclusively by correspondence is an amount equal to 55 percent of the established charge which the institution requires nonveterans to pay for the course or courses pursued by such person.

"(B) For purposes of subparagraph (A), the term 'established charge' means the lesser of—

"(i) the charge for the course or courses determined on the basis of the lowest extended time payment plan offered by the institution and approved by the appropriate State approving agency; or

"(ii) the actual charge to the person for such course or courses.

"(C) Such allowance shall be paid quarterly on a pro rata basis for the lessons completed by the person and serviced by the institution.

"(2) In each case in which the amount of educational assistance is determined under paragraph (1), the period of entitlement of the person concerned shall be charged with one month for each $140 which is paid to the individual as an educational assistance allowance.".

(c) CONFORMING AMENDMENTS.—Section 2136(b) of such title is amended—

(1) by striking out the first sentence and inserting in lieu thereof the following: "Except as otherwise provided in this chapter, the provisions of sections 1434(b), 1663, 1670, 1671, 1673, 1674, 1676, 1682(g), and 1683 of title 38 and the provisions of subchapters I and II of chapter 36 of such title (with the exception of sections 1780(c), 1780(g), 1786(a), 1787, and 1792)

shall be applicable to the provision of educational assistance under this chapter."; and

(2) by striking out ", as used" in the second sentence and inserting in lieu thereof "and the term 'a person', as used".

10 USC 2131 note.

(d) EFFECTIVE DATE.—The amendments made by this section shall apply with respect to any person who after September 30, 1990, meets the requirements set forth in subparagraph (A) or (B) of section 2132(a)(1) of title 10, United States Code.

SEC. 643. LIMITATION OF ACTIVE GUARD AND RESERVE PERSONNEL TO ACTIVE-DUTY PROGRAM

(a) LIMITATION.—Section 2132(d) of title 10, United States Code, is amended by adding at the end the following new sentence: "However, a person may not receive credit under the program established by this chapter for service (in any grade) on full-time active duty or full-time National Guard duty for the purpose of organizing, administering, recruiting, instructing, or training the reserve components in a position which is included in the end strength required to be authorized each year by section 115(b)(1)(A)(ii) of this title.".

10 USC 2131 note.

(b) SAVINGS PROVISION.—The amendment made by subsection (a) shall not affect the eligibility for educational assistance of any person who before the date of the enactment of this Act is entitled to educational assistance under section 2131(a) of title 10, United States Code.

SEC. 644. REPORT ON IMPOSITION OF CONTRIBUTION REQUIREMENT FOR PARTICIPATION IN CHAPTER 106 PROGRAM

Not later than March 15, 1990, the Secretary of Defense shall submit to Congress a report setting forth the views of the Secretary on the desirability and the practicability of requiring members of the reserve components, as a condition of participating in the educational assistance program under chapter 106 of title 10, United States Code, to sustain a reduction in pay in the same manner as applies to members of the Armed Forces on active duty who participate in the educational assistance program under chapter 30 of title 38, United States Code.

SEC. 645. TECHNICAL AMENDMENTS

(a) REFERENCES TO ADMINISTRATOR OF VETERANS' AFFAIRS.—Chapter 106 of title 10, United States Code, is amended—

(1) by striking out "Administrator of Veterans' Affairs" in sections 2131(b)(4), 2132(c), 2132(d), and 2136(a) and inserting in lieu thereof "Secretary of Veterans Affairs"; and

(2) by striking out "to the Administrator" in section 2132(c) and inserting in lieu thereof "to that Secretary".

(b) OTHER TECHNICAL AMENDMENTS.—(1) Section 2131(b) of such title is amended by striking out "and educational" in the matter preceding paragraph (1) and inserting in lieu thereof "of an educational".

(2) Section 2132(d) of such title is amended by striking out "An individual" and inserting in lieu thereof "A person".

PART F—PERSONNEL AND COMPENSATION TECHNICAL AMENDMENTS

SEC. 651. TECHNICAL AMENDMENTS TO MILITARY RETIREMENT LAWS

(a) CLARIFICATION OF COMPUTATION OF RETIRED PAY UNDER HIGH-THREE SYSTEM.—Section 1407 of title 10, United States Code, is amended—

(1) in subsection (b), by inserting "or (d)" after "subsection (c)";

(2) by striking out subsections (c), (e), (f) and (g);

(3) by redesignating subsection (d) as subsection (e); and

(4) by inserting after subsection (b) the following new subsections (c) and (d):

"(c) COMPUTATION OF HIGH-THREE AVERAGE FOR MEMBERS ENTITLED TO RETIRED OR RETAINER PAY FOR REGULAR SERVICE.—

"(1) GENERAL RULE.—The high-three average of a member entitled to retired or retainer pay under any provision of law other than section 1204 or 1205 or section 1331 of this title is the amount equal to—

"(A) the total amount of monthly basic pay to which the member was entitled for the 36 months (whether or not consecutive) out of all the months of active service of the member for which the monthly basic pay to which the member was entitled was the highest, divided by

"(B) 36.

"(2) SPECIAL RULE FOR SHORT-TERM DISABILITY RETIREES.—In the case of a member who is entitled to retired pay under section 1201 or 1202 of this title and who has completed less than 36 months of active service, the member's high-three average (notwithstanding paragraph (1)) is the amount equal to—

"(A) the total amount of basic pay to which the member was entitled during the period of the member's active service, divided by

"(B) the number of months (including any fraction thereof) of the member's active service.

"(d) COMPUTATION OF HIGH-THREE AVERAGE FOR MEMBERS AND FORMER MEMBERS ENTITLED TO RETIRED PAY FOR NONREGULAR SERVICE.—

"(1) RETIRED PAY UNDER CHAPTER 67.—The high-three average of a member or former member entitled to retired pay under section 1331 of this title is the amount equal to—

"(A) the total amount of monthly basic pay to which the member or former member was entitled during the member or former member's high-36 months (or to which the member or former member would have been entitled if the member or former member had served on active duty during the entire period of the member or former member's high-36 months), divided by

"(B) 36.

"(2) NONREGULAR SERVICE DISABILITY RETIRED PAY.—The high-three average of a member entitled to retired pay under section 1204 or 1205 of this title is the amount equal to—

"(A) the total amount of monthly basic pay to which the member was entitled during the member's high-36 months (or to which the member would have been entitled if the

member had served on active duty during the entire period of the member's high-36 months), divided by

"(B) 36.

"(3) SPECIAL RULE FOR SHORT-TERM DISABILITY RETIREES.—In the case of a member who is entitled to retired pay under section 1204 or 1205 of this title and who was a member for less than 36 months before being retired under that section, the member's high-three average (notwithstanding paragraph (2)) is the amount equal to—

"(A) the total amount of basic pay to which the member was entitled during the entire period the member was a member of a uniformed service before being so retired (or to which the member would have been entitled if the member had served on active duty during the entire period the member was a member of a uniformed service before being so retired), divided by

"(B) the number of months (including any fraction thereof) which the member was a member before being so retired.

"(4) HIGH-36 MONTHS.—The high-36 months of a member or former member whose retired pay is covered by paragraph (1) or (2) are the 36 months (whether or not consecutive) out of all the months before the member or former member became entitled to retired pay for which the monthly basic pay to which the member or former member was entitled (or would have been entitled if serving on active duty during those months) was the highest. In the case of a former member, only months during which the former member was a member of a uniformed service may be used for purposes of the preceding sentence.".

(b) CLARIFICATION OF APPLICABILITY OF PROVISIONS TO FORMER MEMBERS ENTITLED TO RETIRED PAY.—Chapter 71 of title 10, United States Code, is amended as follows:

(1) Section 1401a is amended—

(A) in subsection (b)(3), by inserting "and former member" after "member" the first place it appears;

(B) in subsection (e), by inserting "or former member" after "member" the first and third places it appears; and

(C) in subsection (f), by inserting "or former member" in the second sentence after "member".

(2) Section 1407(b) is amended by striking out "member" and "member's" and inserting in lieu thereof "person" and "person's", respectively.

(3) Section 1409(a)(1) is amended by striking out "who is retired" and inserting in lieu thereof "who is entitled to that pay".

(4) Section 1410 is amended—

(A) in the matter preceding paragraph (1), by inserting "or former member" after "member" each place (other than the second place) it appears; and

(B) in paragraph (1), by striking out "member's retired pay" and inserting in lieu thereof "retired pay of the member or former member".

(c) PAYMENTS FROM MILITARY RETIREMENT FUND.—Section 1463(a) of such title is amended—

(1) in paragraph (1), by striking out "persons" and inserting in lieu thereof "members";

(2) by redesignating paragraphs (2) and (3) as paragraphs (3) and (4), respectively; and

(3) by inserting after paragraph (1) the following new paragraph (2):

"(2) retired pay payable under chapter 67 of this title to former members of the armed forces (other than retired pay payable by the Secretary of Transportation);".

(d) CLARIFICATION OF ENTITLEMENT OF RETIRED RESERVISTS FOR SERVICE PERFORMED WHILE IN RETIRED STATUS.—Section 675 of title 10, United States Code, is amended by adding at the end the following: "A member of the Ready Reserve (other than a member transferred to the Retired Reserve under section 1001(b) of this title) who is ordered to active duty or other appropriate duty in a retired status may be credited under chapter 67 of this title with service performed pursuant to such order. A member in a retired status is not eligible for promotion (or for consideration for promotion) as a Reserve.".

SEC. 652. REPEAL OF CERTAIN OBSOLETE AND EXPIRED PROVISIONS

(a) TITLE 10.—Title 10, United States Code, is amended as follows:

(1)(A) Section 971(a) is amended by striking out ", under an appointment accepted after June 25, 1956,".

(B) The limitation in section 971(a) of title 10, United States Code, shall not apply with respect to a period of service referred to in that section while also serving under an appointment as a cadet or midshipman accepted before June 26, 1956. 10 USC 971 note.

(2) Section 971(b) is amended—

(A) in paragraph (1), by striking out ", if he was appointed as a midshipman or cadet after March 4, 1913"; and

(B) in paragraph (2), by striking out ", if he was appointed as a midshipman or cadet after August 24, 1912".

(3) Section 1482(e) is amended by striking out "the effective date of this subsection, or the date of death," and inserting in lieu thereof "the date of death".

(4) Sections 3014(f), 5014(f), and 8014(f) are each amended by striking out paragraph (5).

(5) Section 6330(a) is amended by striking out "under—" and all that follows through "this section." and inserting in lieu thereof "under this section.".

(6) Section 8925(a) is amended by striking out "and service computed under section 8683 of this title".

(7) Section 8926 is amended—

(A) in subsection (a)—

(i) by inserting "and" at the end of paragraph (1);

(ii) by striking out the semicolon at the end of paragraph (2) and inserting in lieu thereof a period; and

(iii) by striking out paragraphs (3) and (4); and

(B) by striking out subsection (d).

(b) TITLE 37.—Title 37, United States Code, is amended as follows:

(1) Sections 308b(e) and 308c(e) are each amended by striking out the second sentence.

(2) Section 308c(a) is amended by striking out ", after September 30, 1978,".

SEC. 653. OTHER TECHNICAL AND CLERICAL AMENDMENTS

(a) AMENDMENTS FOR STYLISTIC CONSISTENCY.—Title 10, United States Code, is amended as follows:

(1) Section 502 is amended by striking out "or affirmation".

(2) Section 603(f) is amended—

(A) by striking out "terminates—" and inserting in lieu thereof "terminates on the earliest of the following:";

(B) by striking out "on the" in paragraph (1) and inserting in lieu thereof "The";

(C) by striking out the semicolon at the end of paragraph (1) and inserting in lieu thereof a period;

(D) by striking out "at the" in paragraph (2) and inserting in lieu thereof "The";

(E) by striking out "; or" at the end of paragraph (2) and inserting in lieu thereof a period;

(F) by striking out "on the" in paragraph (3) and inserting in lieu thereof "The"; and

(G) by striking out the semicolon at the end of paragraph (3) and all that follows and inserting in lieu thereof a period.

(3) Section 671b(a) is amended by striking out "Armed Forces of the United States" and inserting in lieu thereof "armed forces".

(4) Section 1076(e)(3)(C) is amended by striking out "1 year" and inserting in lieu thereof "one year".

(5) Section 1408(a) is amended—

(A) by striking out "(26 U.S.C. 3402(i))" in paragraph (4)(D); and

(B) by inserting "entitled to retired pay under section 1331 of this title" in paragraph (5) after "a former member".

(6) Section 1482(a) is amended—

(A) by striking out "expenses of—" and inserting in lieu thereof "expenses of the following:";

(B) by capitalizing the first letter of the first word in each of paragraphs (1) through (11);

(C) by striking out the semicolon at the end of paragraphs (1) through (9) and inserting in lieu thereof a period;

(D) by striking out "; and" at the end of paragraph (10) and inserting in lieu thereof a period; and

(E) in paragraph (11)—

(i) by striking out "clause" each place it appears and inserting in lieu thereof "paragraph"; and

(ii) by striking out "decedent; for the" and inserting in lieu thereof "decedent. For the".

(b) CORRECTION OF TABLE HEADING.—Section 305a(b) of title 37, United States Code, is amended by inserting "COMMISSIONED" before "OFFICERS" in the heading of the table in that subsection relating to officers in pay grades O-1 through O-6.

(c) CORRECTIONS TO AMENDMENTS MADE BY PUBLIC LAW 100-456.—(1) Section 411g(a) of title 37, United States Code, is amended by striking out "to" after "may be paid".

(2) Section 419 of such title is amended—

(A) by striking out "a officer" both places it appears and inserting in lieu thereof "an officer"; and

(B) by striking out "to" after "may be paid".

(d) PUNCTUATION AMENDMENT.—Section 209(c) of title 37, United States Code, is amended by striking out the period after "title 10" the first place it appears.

(e) CROSS REFERENCE CORRECTIONS.—(1) Section 1094(c)(2) of title 10, United States Code, is amended by striking out "subsections (b) and (d) through (g)" and inserting in lieu thereof "subsections (c) and (e) through (h)".

(2) Section 403(b)(1)(B) of Public Law 99-661 (10 U.S.C. 521 note) is amended by striking out "3033," and "8033," and inserting in lieu thereof "3021," and "8021,", respectively.

(f) DATE OF ENACTMENT REFERENCE.—Section 1102(j)(1) of title 10, United States Code, is amended by striking out "the date of the enactment of this section" and inserting In lieu thereof "November 14, 1986".

(g) REFERENCE TO THE CANAL ZONE.—Section 708(a) of title 32, United States Code, is amended by striking out "governor of each State and Territory, Puerto Rico, and the Canal Zone" and inserting in lieu thereof "Governor of each State or Territory and Puerto Rico".

PART G—MISCELLANEOUS

SEC. 661. MILITARY RELOCATION ASSISTANCE PROGRAMS

10 USC 113 note.

(a) REQUIREMENT TO PROVIDE ASSISTANCE.—Not later than October 1, 1990, the Secretary of Defense shall establish a program to provide relocation assistance to members of the Armed Forces and their families as provided in this section. In addition, the Secretary of Defense shall make every effort, consistent with readiness objectives, to stabilize and lengthen tours of duty to minimize the adverse effects of relocation.

(b) TYPES OF ASSISTANCE.—(1) The Secretary of each military department, under regulations prescribed by the Secretary of Defense, shall provide relocation assistance, through military relocation assistance programs described in subsection (c), to members of the Armed Forces who are ordered to make a change of permanent station which includes a move to a new location (and for dependents of such members who are authorized to move in connection with the change of permanent station).

Regulations.

(2) The relocation assistance provided shall include the following:

(A) Provision of destination area information and preparation (to be provided before the change of permanent station takes effect), with emphasis on information with regard to moving costs, housing costs and availability, child care, spouse employment opportunities, cultural adaptation, and community orientation.

(B) Provision of counseling about financial management, home buying and selling, renting, stress management aimed at intervention and prevention of abuse, property management, and shipment and storage of household goods (including motor vehicles and pets).

(C) Provision of settling-in services, with emphasis on available government living quarters, private housing, child care, spouse employment assistance information, cultural adaptation, and community orientation.

(D) Provision of home finding services, with emphasis on services for locating adequate, affordable temporary and permanent housing.

(c) MILITARY RELOCATION ASSISTANCE PROGRAMS.—(1) The Secretary shall provide for the establishment of military relocation

assistance programs to provide the relocation assistance described in subsection (b). The Secretary shall establish such a program in each geographic area in which at least 500 members of the Armed Forces are assigned to or serving at a military installation. A member who is not stationed within a geographic area that contains such a program shall be given access to such a program. The Secretary shall ensure that persons on the staff of each program are trained in the techniques and delivery of professional relocation assistance.

(2) The Secretary shall ensure that, not later than September 30, 1991, information available through each military relocation assistance program shall be managed through a computerized information system that can interact with all other military relocation assistance programs of the military departments, including programs located outside the continental United States.

(3) Duties of each military relocation assistance program shall include assisting personnel offices on the military installation in using the computerized information available through the program to help provide members of the Armed Forces who are deciding whether to reenlist information on locations of possible future duty assignments.

(d) DIRECTOR.—The Secretary of Defense shall establish the position of Director of Military Relocation Assistance Programs in the office of the Assistant Secretary of Defense (Force Management and Personnel). The Director shall oversee development and implementation of the military relocation assistance programs under this section.

(e) REGULATIONS.—This section shall be administered under regulations prescribed by the Secretary of Defense.

(f) ANNUAL REPORT.—Not later than March 1 each year, the Secretary of Defense, acting through the Director of Military Relocation Assistance Programs, shall submit to Congress a report on the program under this section and on military family relocation matters. The report shall include the following:

(1) An assessment of available, affordable private-sector housing for members of the Armed Forces and their families.

(2) An assessment of the actual nonreimbursed costs incurred by members of the Armed Forces and their families who are ordered to make a change of permanent station.

(3) Information (shown by military installation) on the types of locations at which members of the Armed Forces assigned to duty at military installations live, including the number of members of the Armed Forces who live on a military installation and the number who do not live on a military installation.

(4) Information on the effects of the relocation assistance programs established under this section on the quality of life of members of the Armed Forces and their families and on retention and productivity of members of the Armed Forces.

(g) INAPPLICABILITY TO COAST GUARD.—This section does not apply to the Coast Guard.

(h) DEADLINE FOR REGULATIONS.—The Secretary of Defense shall prescribe regulations to implement this section not later than July 1, 1990.

(i) REPORT ON PLAN FOR IMPLEMENTATION.—Not later than March 1, 1990, the Secretary of Defense shall submit to the Committees on Armed Services of the Senate and House of Representatives a report on a plan for the full implementation of the programs

provided for in this section. The report shall include an estimate of the cost of implementing that plan.

SEC. 662. EXTENSION OF TEST PROGRAM OF REIMBURSEMENT FOR ADOPTION EXPENSES

(a) INCLUSION OF COAST GUARD.—(1) Subsection (a) of section 638 of the National Defense Authorization Act for Fiscal Years 1988 and 1989 (101 Stat. 1106; 10 U.S.C. 113 note) is amended—

(A) by inserting "under the jurisdiction of the Secretary" after "member of the Armed Forces"; and

(B) by adding at the end the following new sentence: "The Secretary of Transportation shall carry out a similar test program under which a member of the Coast Guard may be reimbursed, as provided in this section, for qualifying adoption expenses incurred by the member.".

(2) Subsection (f) of such section is amended to read as follows:

"(f) REGULATIONS.—The Secretary of Defense shall prescribe regulations to carry out this section with respect to members of the Armed Forces under the Secretary's jurisdiction. The Secretary of Transportation shall prescribe regulations to carry out this section with respect to members of the Coast Guard.".

(b) PERIOD COVERED BY TEST PROGRAM.—Subsection (h) of such section is amended to read as follows:

"(h) DURATION OF TEST PROGRAM.—The test program under this section shall apply with respect to qualifying adoption expenses incurred for adoption proceedings initiated—

"(1) in the case of a member of the Army, Navy, Air Force, or Marine Corps, after September 30, 1987, and before October 1, 1990; and

"(2) in the case of a member of the Coast Guard, after September 30, 1989, and before October 1, 1990.".

(c) TECHNICAL AMENDMENTS.—(1) Subsection (a) of such section is amended—

(A) by striking out "shall establish" and inserting in lieu thereof "shall carry out"; and

(B) by striking out "in the adoption of a child".

(2) Subsection (g)(1) of such section is amended by inserting "under 18 years of age" after "legal adoption of a child".

SEC. 663. REPEAL OF FOUR-YEAR RESERVE OFFICER UNIFORM ALLOWANCE

(a) REPEAL OF ALLOWANCE.—Section 416 of title 37, United States Code, is amended—

(1) by striking out subsection (a);

(2) by striking out "(b) In addition" and all that follows through "of this section" and inserting in lieu thereof "(a) In addition to the allowance provided by section 415 of this title";

(3) by striking out "he" and inserting in lieu thereof "the officer"; and

(4) by designating the sentence beginning "However, this subsection does not" as subsection (b) and in that sentence striking out "However, this subsection" and inserting in lieu thereof "Subsection (a)".

(b) SAVE PAY PROVISION.—An officer of an armed force who, but for the amendments made by subsection (a), would have become entitled to a uniform reimbursement under section 416(a) of title 37, United States Code, before the end of the one-year period beginning

37 USC 416 note.

on the date of the enactment of this Act shall be entitled (during such one-year period) to receive such reimbursement under such section as in effect on the day before the date of the enactment of this Act.

SEC. 664. REIMBURSEMENT FOR FINANCIAL INSTITUTION CHARGES INCURRED BECAUSE OF GOVERNMENT ERROR IN DIRECT DEPOSIT OF PAY

(a) EXTENSION OF SCOPE OF REIMBURSEMENT AUTHORITY.—(1) Subsection (a) of section 1053 of title 10, United States Code, is amended to read as follows:

"(a)(1) A member of the armed forces (or a former member of the armed forces entitled to retired pay under chapter 67 of this title) who, in accordance with law or regulation, participates in a program for the automatic deposit of pay to a financial institution may be reimbursed by the Secretary concerned for a covered late-deposit charge.

"(2) A covered late-deposit charge for purposes of paragraph (1) is a charge (including an overdraft charge or a minimum balance or average balance charge) that is levied by a financial institution and that results from an administrative or mechanical error on the part of the Government that causes the pay of the person concerned to be deposited late or in an incorrect manner or amount.".

(2) Subsection (d) of such section is amended to read as follows:

"(d) In this section:

"(1) The term 'financial institution' has the meaning given the term 'financial organization' in section 3332(a) of title 31.

"(2) The term 'pay' includes (A) retired pay, and (B) allowances.".

(3)(A) The heading of such section is amended to read as follows:

"§ 1053. Reimbursement for financial institution charges incurred because of Government error in mandatory direct deposit of pay".

(B) The item relating to such section in the table of sections at the beginning of chapter 53 of such title is amended to read as follows:

"1053. Reimbursement for financial institution charges incurred because of Government error in mandatory direct deposit of pay.".

(b) OTHER DEPARTMENT OF DEFENSE PERSONNEL.—(1) Chapter 81 of such title is amended by adding after section 1593, as added by section 336, the following new section:

"§ 1594. Reimbursement for financial institution charges incurred because of Government error in mandatory direct deposit of pay

"(a)(1) A civilian officer or employee of the Department of Defense who, in accordance with law or regulation, participates in a program for the automatic deposit of pay to a financial institution may be reimbursed for a covered late-deposit charge.

"(2) A covered late-deposit charge for purposes of paragraph (1) is a charge (including an overdraft charge or a minimum balance charge) that is levied by a financial institution and that results from an administrative or mechanical error on the part of the Government that causes the pay of the officer or employee concerned to be deposited late or in an incorrect manner or amount.

"(b) Reimbursements under this section shall be made from appropriations available for the pay of the officer or employee concerned.

"(c) The Secretaries concerned shall prescribe regulations to carry out this section, including regulations for the manner in which reimbursement under this section is to be made.

"(d) in this section:

"(1) The term 'financial institution' has the meaning given the term 'financial organization' in section 3332(a) of title 31.

"(2) The term 'pay' includes allowances.".

(2) The table of sections at the beginning of such chapter is amended by adding after the item relating to section 1593, as added by section 336, the following new item:

"1594. Reimbursement for financial institution charges incurred because of Government error in mandatory direct deposit of pay.".

(c) EFFECTIVE DATE.—The amendments made by subsection (a), and section 1594 of title 10, United States Code, as added by subsection (b), shall apply with respect to pay and allowances deposited (or scheduled to be deposited) on or after the first day of the first month beginning after the date of the enactment of this Act. 10 USC 1053 note.

TITLE VII—HEALTH CARE PROVISIONS

PART A—HEALTH CARE PROFESSIONS PERSONNEL MATTERS

SEC. 701. AUTHORITY TO REPAY LOANS OF CERTAIN HEALTH PROFESSIONALS WHO SERVE IN THE SELECTED RESERVE

(a) EXPANSION OF EDUCATION LOANS THAT QUALIFY FOR REPAYMENT.—Subsection (a) of section 2172 of title 10, United States Code, is amended—

(1) by striking out "and" at the end of paragraph (2);

(2) by striking out the period at the end of paragraph (3) and inserting in lieu thereof "; and"; and

(3) by adding at the end the following new paragraph:

"(4) a loan made, insured, or guaranteed through a recognized financial or educational institution if that loan was used to finance education regarding a health profession that the Secretary of Defense determines to be critically needed in order to meet identified wartime combat medical skill shortages.".

(b) EXTENSION OF AUTHORITY.—Subsection (d) of such section is amended by striking out "October 1, 1990" and inserting in lieu thereof "October 1, 1992".

(c) TECHNICAL AMENDMENTS.—(1) Subsection (a) of such section is amended by striking out "a portion of" in paragraph (1).

(2) Subsection (c) of such section is amended by striking out "portion of" in paragraph (2) and inserting in lieu thereof "amount of".

(d) REPORT ON LOAN REPAYMENTS.—(1) The Secretary of Defense shall submit to the Committees on Armed Services of the Senate and House of Representatives a report—

(A) evaluating the loan repayment program for certain health professionals established under section 2172 of title 10, United States Code (as amended by this section); and

(B) containing a legislative proposal to establish a comprehensive and coordinated program in the military departments to repay education loans for health professionals who serve on active duty or in a reserve component.

(2) The report required by paragraph (1) shall be submitted not later than January 15, 1990.

SEC. 702. REVISION OF MILITARY PHYSICIAN SPECIAL PAY STRUCTURE

(a) VARIABLE SPECIAL PAY.—Subsection (a)(2) of section 302 of title 37, United States Code, is amended—

(1) by striking out "$10,000" in subparagraph (C) and inserting in lieu thereof "$12,000";

(2) by striking out "$9,500" in subparagraph (D) and inserting in lieu thereof "$11,500";

(3) by striking out "$9,000" in subparagraph (E) and inserting in lieu thereof "$11,000";

(4) by striking out "$8,000" in subparagraph (F) and inserting in lieu thereof "$10,000";

(5) by striking out "$7,000" in subparagraph (G) and inserting in lieu thereof "$9,000";

(6) by striking out "$6,000" in subparagraph (H) and inserting in lieu thereof "$8,000"; and

(7) by striking out "$5,000" in subparagraph (I) and inserting in lieu thereof "$7,000".

(b) ADDITIONAL SPECIAL PAY.—Subsection (a)(4) of such section is amended—

(1) by striking out "(A)";

(2) by striking out "who has less than ten years of creditable service";

(3) by striking out "$9,000" and inserting in lieu thereof "$15,000"; and

(4) by striking out subparagraph (B).

(c) BOARD CERTIFICATION PAY.—Subsection (a)(5) of such section is amended—

(1) by striking out "$2,000" in subparagraph (A) and inserting in lieu thereof "$2,500";

(2) by striking out "$2,500" in subparagraph (B) and inserting in lieu thereof "$3,500";

(3) by striking out "$3,000" in subparagraph (C) and inserting in lieu thereof "$4,000";

(4) by striking out "$4,000" in subparagraph (D) and inserting in lieu thereof "$5,000"; and

(5) by striking out "$5,000" in subparagraph (E) and inserting in lieu thereof "$6,000".

(d) INCENTIVE SPECIAL PAY.—Subsection (b)(1) of such section is amended by striking out "$8,000 for any twelve-month period" and all that follows through the period and inserting in lieu thereof "$16,000 for any twelve-month period beginning in fiscal year 1990, $22,000 for any twelve-month period beginning in fiscal year 1991, $29,000 for any twelve-month period beginning in fiscal year 1992, and $36,000 for any twelve-month period beginning after fiscal year 1992.".

(e) RESERVE MEDICAL OFFICERS SPECIAL PAY.—Subsection (h) of such section is amended to read as follows:

"(h) RESERVE MEDICAL OFFICERS SPECIAL PAY.—(1) A reserve medical officer described in paragraph (2) is entitled to special pay at the rate of $450 a month for each month of active duty.

"(2) A reserve medical officer referred to in paragraph (1) is a reserve officer who—

"(A) is an officer of the Medical Corps of the Army or the Navy or an officer of the Air Force designated as a medical officer; and

"(B) is on active duty under a call or order to active duty for a period of less than one year.".

(f) STYLISTIC AMENDMENTS.—Such section is further amended—

(1) by inserting "VARIABLE, ADDITIONAL, AND BOARD CERTIFICATION SPECIAL PAY.—" in subsection (a) after "(a)";

(2) by inserting "INCENTIVE SPECIAL PAY.—" in subsection (b) after "(b)";

(3) by inserting "ACTIVE-DUTY AGREEMENT.—" in subsection (c) after "(c)";

(4) by inserting "REGULATIONS.—" in subsection (d) after "(d)";

(5) by inserting "FREQUENCY OF PAYMENTS.—" in subsection (e) after "(e)";

(6) by inserting "REFUND FOR PERIOD OF UNSERVED OBLIGATED SERVICE.—" in subsection (f) after "(f)";

(7) by inserting "DETERMINATION OF CREDITABLE SERVICE.—" in subsection (g) after "(g)";

(8) by inserting "EFFECT OF DISCHARGE IN BANKRUPTCY.—" in subsection (i) after "(i)"; and

(9) by striking out "of this section" and "of this subsection" each place they appear (other than in subsection (g)).

(g) EFFECTIVE DATE.—(1) The amendments made by subsections (a) and (c) shall take effect on January 1, 1990. 37 USC 302 note.

(2) The amendments made by subsections (b) and (d) shall apply to an agreement entered into under section 302(c)(1) of title 37, United States Code, on or after the date of the enactment of this Act.

(3) The amendment made by subsection (e) shall take effect on January 1, 1990, and shall apply to pay periods beginning on or after such date.

SEC. 703. EXTENSION AND EXPANSION OF MEDICAL OFFICER RETENTION BONUS PROGRAM

(a) BONUS AUTHORIZED.—Subsection (a) of section 612 of the National Defense Authorization Act, Fiscal Year 1989 (102 Stat. 1979; 37 U.S.C. 302 note), is amended by striking out "September 30, 1989" in paragraph (1) and inserting in lieu thereof "September 30, 1990".

(b) LIMITATION ON AMOUNT OF INCENTIVE SPECIAL PAY.—Subsection (a) of such section is further amended by adding at the end the following new paragraph:

"(3) Notwithstanding any other provision of law, the amount of incentive special pay under section 302(b) of title 37, United States Code, paid to a medical officer who executes an agreement under paragraph (1) may not exceed $16,000 during each year covered by the agreement.".

(c) COVERED OFFICERS.—Subsection (b) of such section is amended—

(1) in paragraph (3), by striking out "; and" and inserting in lieu thereof "or has completed any active-duty service commitment incurred for medical education and training;"; and

(2) by striking out paragraph (4) and inserting in lieu thereof the following:

"(4) has completed initial residency training (or will complete such training before October 1, 1991); and

"(5) is not pursuing a medical residency or fellowship subsequent to completing initial residency training.".

(d) REPORT.—(1) Subsection (g) of such section is amended to read as follows:

"(g) REPORT.—(1) Not later than March 1, 1990, the Secretary of Defense shall submit to the Committees on Armed Services of the Senate and House of Representatives a report evaluating—

"(A) the effectiveness of the Armed Forces in retaining medical officers by providing a retention bonus under this section to medical officers who make a multi-year active-duty service commitment; and

"(B) the effectiveness and practicability of such alternative multi-year options as the Secretary considers appropriate to encourage medical officers to make active-duty service commitments of longer length.

"(2) The options evaluated by the Secretary under paragraph (1)(B) shall include—

"(A) a proposal to increase the payment of additional special pay under subsection (a)(4) of section 302 of title 37, United States Code, by $2,000 for a two-year active-duty service commitment, $4,000 for a three-year active-duty service commitment, and $8,000 for a four-year active-duty service commitment; and

"(B) a proposal to increase the amount of incentive special pay provided under subsection (b) of such section to medical officers who make a multi-year active-duty service commitment by a certain percentage based on the length of the active-duty service commitment.

"(3) The Secretary shall include for each option evaluated under paragraph (1) an assessment of the cost of such option if implemented and methods to fund such option within the amounts provided for special pay under section 302 of title 37, United States Code.".

(2) Such section is further amended by striking out subsection (i).

37 USC 302 note.

(e) TRANSITION FOR CERTAIN OFFICERS EXCLUDED DURING FISCAL YEAR 1989.—(1) In the case of an agreement that was executed by a medical officer under section 612 of the National Defense Authorization Act, Fiscal Year 1989 (102 Stat. 1979; 37 U.S.C. 302 note), before October 1, 1989, but that was not accepted by the Secretary concerned solely because of the limitation contained in subsection (h) of such section, the Secretary concerned may accept such agreement during the 90-day period beginning on the date of the enactment of this Act notwithstanding such limitation.

(2) An agreement accepted under this subsection may be deemed by the Secretary concerned to have been accepted on the date on which the officer executed the agreement during fiscal year 1989.

37 USC 302 note.

(f) COVERAGE OF PERIOD OF LAPSED AUTHORITY.—In the case of a medical officer described in paragraph (2) who executes an agreement under section 612 of the National Defense Authorization Act, Fiscal Year 1989 (102 Stat. 1979; 37 U.S.C. 302 note), during the 90-day period beginning on the date of the enactment of this Act, the Secretary concerned may deem such agreement to have been executed and accepted for purposes of such section on the first date on which the officer would have qualified for such agreement had the authority referred to in such paragraph not lapsed.

(2) A medical officer referred to in paragraph (1) is an officer who, during the period beginning on October 1, 1989, and ending on the date of the enactment of this Act, would have qualified for an agreement under such section but for the fact that the authority for the payment of bonuses provided by such section had lapsed.

(g) SECRETARY CONCERNED DEFINED.—For purposes of subsections (e) and (f), the term "Secretary concerned" has the meaning given that term by section 101(5) of title 37, United States Code. 37 USC 302 note.

SEC. 704. SPECIAL PAY FOR PSYCHOLOGISTS

(a) SPECIAL PAY AUTHORIZED.—Section 302c of title 37, United States Code, is amended by adding at the end the following new subsection:

"(c) ARMY, NAVY, AND AIR FORCE PSYCHOLOGISTS.—The Secretary of Defense may provide special pay at the rates specified in subsection (b) to an officer who—

"(1) is an officer in the Medical Service Corps of the Army or Navy or a biomedical sciences officer in the Air Force;

"(2) is designated as a psychologist; and

"(3) has been awarded a diploma as a Diplomate in Psychology by the American Board of Professional Psychology.".

(b) CLERICAL AMENDMENTS.—(1) The section heading of such section is amended by striking out "in the Public Health Service Corps".

(2) The item relating to section 302c in the table of sections at the beginning of chapter 5 of such title is amended by striking out "in the Public Health Service Corps".

(c) STYLISTIC AMENDMENTS.—Such section is further amended—

(1) by inserting "PUBLIC HEALTH SERVICE CORPS.—" in subsection (a) after "(a)"; and

(2) by inserting "RATE OF SPECIAL PAY.—" in subsection (b) after "(b)".

(d) IMPLEMENTATION OF AMENDMENT.—The Secretary of Defense may not implement subsection (c) of section 302c of title 37, United States Code (as added by subsection (a)), unless the Secretary submits to the Committees on Armed Services of the Senate and House of Representatives a report— Reports. 37 USC 302c note.

(1) justifying the need of the military departments for the authority provided in such subsection; and

(2) describing the manner in which that authority will be implemented.

SEC. 705. ACCESSION BONUS FOR REGISTERED NURSES

(a) ACCESSION BONUS AUTHORIZED.—(1) Chapter 5 of title 37, United States Code, is amended by adding after section 302c the following new section:

"§ 302d. Special pay: accession bonus for registered nurses

"(a) ACCESSION BONUS AUTHORIZED.—(1) A person who is a registered nurse and who, during the period beginning on the date of the enactment of the National Defense Authorization Act for Fiscal Years 1990 and 1991 and ending on September 30, 1991, executes a written agreement described in subsection (c) to accept a commission as an officer and remain on active duty for a period of not less than four years may, upon the acceptance of the agreement by the Secretary concerned, be paid an accession bonus in an amount determined by the Secretary concerned.

"(2) The amount of an accession bonus under paragraph (1) may not exceed $5,000.

"(b) LIMITATION ON ELIGIBILITY FOR BONUS.—A person may not be paid a bonus under subsection (a) if—

"(1) the person, in exchange for an agreement to accept an appointment as an officer, received financial assistance from the Department of Defense to pursue a baccalaureate degree; or

"(2) the Secretary concerned determines that the person is not qualified to become and remain licensed as a registered nurse.

"(c) AGREEMENT.—The agreement referred to in subsection (a) shall provide that, consistent with the needs of the uniformed service concerned, the person executing the agreement will be assigned to duty, for the period of obligated service covered by the agreement, as an officer of the Nurse Corps of the Army or Navy, an officer of the Air Force designated as a nurse, or an officer designated as a nurse in the commissioned corps of the Public Health Service.

"(d) REPAYMENT.—(1) An officer who receives a payment under subsection (a) and who fails to become and remain licensed as a registered nurse during the period for which the payment is made shall refund to the United States an amount equal to the full amount of such payment.

"(2) An officer who voluntarily terminates service on active duty before the end of the period agreed to be served under subsection (a) shall refund to the United States an amount that bears the same ratio to the amount paid to the officer as the unserved part of such period bears to the total period agreed to be served.

"(3) An obligation to reimburse the United States imposed under paragraph (1) or (2) is for all purposes a debt owed to the United States.

"(4) A discharge in bankruptcy under title 11 that is entered less than five years after the termination of an agreement under this section does not discharge the person signing such agreement from a debt arising under such agreement or this subsection. This paragraph applies to any case commenced under title 11 after the date of the enactment of the National Defense Authorization Act for Fiscal Years 1990 and 1991.".

(2) The table of sections at the beginning of such chapter is amended by inserting after the item relating to section 302c the following new item:

"302d. Special pay: accession bonus for registered nurses.".

(b) ADMINISTRATION AND IMPLEMENTATION.—Section 303a of title 37, United States Code, is amended by inserting "302d," after "302c," each place it appears.

(c) REPORT ON IMPLEMENTATION.—Not later than March 1, 1990, the Secretary of Defense shall submit to the Committees on Armed Services of the Senate and the House of Representatives a report describing the manner in which the authority provided in section 302d of title 37, United States Code (as added by subsection (a)), is implemented.

SEC. 706. INCENTIVE PAY FOR NURSE ANESTHETISTS

(a) AUTHORIZATION FOR INCENTIVE PAY.—(1) Chapter 5 of title 37, United States Code, is amended by inserting after section 302d (as added by section 705) the following new section:

"§ 302e. Special pay: nurse anesthetists

"(a) SPECIAL PAY AUTHORIZED.—(1) An officer described in subsection (b) who, during the period beginning on the date of the enactment of the National Defense Authorization Act for Fiscal Years

1990 and 1991 and ending on September 30, 1991, executes a written agreement to remain on active duty for a period of one year or more may, upon the acceptance of the agreement by the Secretary concerned, be paid incentive special pay in an amount not to exceed $6,000 for any 12-month period.

"(2) The Secretary concerned shall determine the amount of incentive special pay to be paid to an officer under paragraph (1). In determining that amount, the Secretary concerned shall consider the period of obligated service provided for in the agreement under that paragraph.

"(b) COVERED OFFICERS.—An officer referred to in subsection (a) is an officer of a uniformed service who—

"(1) is an officer of the Nurse Corps of the Army or Navy, an officer of the Air Force designated as a nurse, or an officer designated as a nurse in the commissioned corps of the Public Health Service;

"(2) is a qualified certified registered nurse anesthetist; and

"(3) is on active duty under a call or order to active duty for a period of not less than one year.

"(c) TERMINATION OF AGREEMENT.—Under regulations prescribed by the Secretary of Defense, with respect to the Army, Navy, and Air Force, and the Secretary of Health and Human Services, with respect to the Public Health Service, the Secretary concerned may terminate an agreement entered into under subsection (a). Upon termination of an agreement, the entitlement of the officer to special pay under this section and the agreed upon commitment to active duty of the officer shall end. The officer may be required to refund that part of the special pay corresponding to the unserved period of active duty.

"(d) PAYMENT.—Special pay payable to an officer under subsection (a) of this section shall be paid annually at the beginning of the 12-month period for which the officer is to receive that payment.

"(e) REPAYMENT.—(1) An officer who voluntarily terminates service on active duty before the end of the period agreed to be served under subsection (a) shall refund to the United States an amount that bears the same ratio to the amount paid to the officer as the unserved part of such period bears to the total period agreed to be served.

"(2) An obligation to reimburse the United States imposed under paragraph (1) is for all purposes a debt owed to the United States.

"(3) A discharge in bankruptcy under title 11 that is entered less than five years after the termination of an agreement under this section does not discharge the person signing such agreement from a debt arising under such agreement or this subsection. This paragraph applies to any case commenced under title 11 after the date of the enactment of the National Defense Authorization Act for Fiscal Years 1990 and 1991.".

(2) The table of sections at the beginning of such chapter is amended by inserting after the item relating to section 302d (as added by section 705) the following new item:

"302e. Special pay: nurse anesthetists.".

(b) ADMINISTRATION AND IMPLEMENTATION.—Section 303a of title 37, United States Code (as amended by section 705(b)), is further amended by inserting "302e," after "302d," each place it appears.

(c) REPORT ON MILITARY USE OF CERTIFIED REGISTERED NURSE ANESTHETISTS.—(1) The Secretary of Defense shall submit to the

Committees on Armed Services of the Senate and House of Representatives a report on the use of certified registered nurse anesthetists by the military departments. The report shall include—

(A) a description of restrictions imposed by the military departments on the use of such nurses;

(B) a comparison of such restrictions with restrictions imposed by other entities on the use of such nurses;

(C) a description of the number of persons who annually receive training by the military departments to be certified registered nurse anesthetists; and

(D) the desirability and cost of expanding the capability of the military departments to provide such training.

(2) The report required by paragraph (1) shall be submitted not later than March 1, 1990.

SEC. 707. NURSE OFFICER CANDIDATE ACCESSION BONUS

(a) BONUS AUTHORIZED.—Chapter 105 of title 10, United States Code, is amended by adding at the end the following new subchapter:

"SUBCHAPTER III—NURSE OFFICER CANDIDATE ACCESSION PROGRAM

"Sec.
"2130a. Financial assistance: nurse officer candidates.

"§ 2130a. Financial assistance: nurse officer candidates

"(a) BONUS AUTHORIZED.—(1) A person described in subsection (b) who, during the period beginning on the date of the enactment of the National Defense Authorization Act for Fiscal Years 1990 and 1991 and ending on September 30, 1991, executes a written agreement in accordance with subsection (c) to accept an appointment as a nurse officer may, upon the acceptance of the agreement by the Secretary concerned, be paid an accession bonus of not more than $5,000. The bonus shall be paid in periodic installments, as determined by the Secretary concerned at the time the agreement is accepted, except that the first installment may not exceed $2,500.

"(2) In addition to the accession bonus payable under paragraph (1), a person selected under such paragraph shall be entitled to a monthly stipend of not more than $500 for each month the individual is enrolled as a full-time student in an accredited baccalaureate degree program in nursing at a civilian educational institution that does not have a Senior Reserve Officers' Training Program established under section 2102 of this title. The continuation bonus may be paid for not more than 24 months.

"(b) ELIGIBLE STUDENTS.—A person eligible to enter into an agreement under subsection (a) is a person who—

"(1) is enrolled as a full-time student in an accredited baccalaureate degree program in nursing at a civilian educational institution that does not have a Senior Reserve Officers' Training Program established under section 2102 of this title;

"(2) has completed the second year of an accredited baccalaureate degree program in nursing and has more than 6 months of academic work remaining before graduation; and

"(3) meets the qualifications for appointment as an officer of a reserve component of the Army, Navy, or Air Force as set forth in section 591 of this title or, in the case of the Public Health

Service, section 207 of the Public Health Service Act (42 U.S.C. 209) and the regulations of the Secretary concerned.

"(c) REQUIRED AGREEMENT.—The agreement referred to in subsection (a) shall provide that the person executing the agreement agrees to the following:

"(1) That the person will complete the nursing degree program described in subsection (b)(1).

"(2) That, upon acceptance of the agreement by the Secretary concerned, the person will enlist in a reserve component of an armed force.

"(3) That the person will accept an appointment as an officer in the Nurse Corps of the Army or the Navy or as an officer designated as a nurse officer in the Air Force or commissioned corps of the Public Health Service, as the case may be, upon graduation from the nursing degree program.

"(4) That the person will serve on active duty as such an officer—

"(A) for a period of 4 years in the case of a person whose agreement was accepted by the Secretary concerned during that person's fourth year of the nursing degree program; or

"(B) for a period of 5 years in the case of a person whose agreement was accepted by the Secretary concerned during that person's third year of the nursing degree program.

"(d) REFUND OF PAYMENTS.—(1) A person shall refund any bonus or stipend paid under subsection (a) if the person—

"(A) fails to complete a nursing degree program in which the person is enrolled in accordance with the agreement entered into under such subsection;

"(B) having completed the nursing degree program, fails to accept an appointment, if tendered, as an officer of the Nurse Corps of the Army or the Navy or as an officer designated as a nurse officer of the Air Force or commissioned corps of the Public Health Service; or

"(C) fails to complete the period of obligated active service required under the agreement.

"(2) An obligation to reimburse the United States imposed under paragraph (1) is for all purposes a debt owed to the United States.

"(3) A discharge in bankruptcy under title 11 that is entered less than five years after the termination of an agreement under this section does not discharge the person signing such agreement from a debt arising under such agreement or this subsection. This paragraph applies to any case commenced under title 11 after the date of the enactment of the National Defense Authorization Act for Fiscal Years 1990 and 1991.".

"(e) REGULATIONS.—The Secretaries concerned shall prescribe regulations to carry out this section.".

(b) CLERICAL AMENDMENT.—The table of subchapters at the beginning of chapter 105 of such title is amended by adding at the end the following new item:

"III. Nurse Officer Candidate Accession Program ..... 2130a".

SEC. 708. PROGRAM TO INCREASE USE OF CERTAIN NURSES BY THE MILITARY DEPARTMENTS

10 USC 531 note.

(a) PROGRAM REQUIRED.—(1) Not later than September 30, 1991, the Secretary of each military department shall implement a program to appoint persons who have an associate degree or diploma in

nursing (but have not received a baccalaureate degree in nursing) as officers and to assign such officers to duty as nurses.

(2) An officer appointed pursuant to the program required by subsection (a) shall be appointed in a warrant officer grade or in a commissioned grade not higher than O-3. Such officer may not be promoted above the grade of O-3 unless the officer receives a baccalaureate degree in nursing.

(b) REPORT ON IMPLEMENTATION.—Not later than April 1, 1990, the Secretary of Defense shall submit to the Committees on Armed Services of the Senate and House of Representatives a report on the actions taken by the Secretaries of the military departments to implement the program required by this section.

SEC. 709. AUTHORITY TO DEFER MANDATORY RETIREMENT FOR AGE OF REGULAR OFFICERS IN A HEALTH-RELATED PROFESSION

Section 1251(c)(2) of title 10, United States Code, is amended—

(1) by striking out "A deferment" and inserting in lieu therof "(A) Except as provided in subparagraph (B), a deferment";

(2) by striking out "67 years of age" and inserting in lieu thereof "68 years of age"; and

(3) by adding at the end the following new subparagraph:

"(B) The Secretary concerned may extend a deferment under this subsection beyond the day referred to in subparagraph (A) if the Secretary determines that extension of the deferment is necessary for the needs of the military department concerned. Such an extension shall be made on a case-by-case basis and shall be for such period as the Secretary considers appropriate.".

SEC. 710. RETENTION IN ACTIVE SERVICE OF RESERVE OFFICERS IN A HEALTH-RELATED PROFESSION

(a) ARMY.—(1) Subsection (c) of section 3855 of title 10, United States Code, is amended—

(A) by striking out "An officer" and inserting in lieu thereof "(1) Except as provided in paragraph (2), an officer";

(B) by striking out "67 years of age" and inserting in lieu thereof "68 years of age"; and

(C) by adding at the end the following new paragraph:

"(2) The Secretary of the Army may retain an officer (other than an officer in the Chaplains) in an active status under this section after the date on which the officer becomes 68 years of age if the Secretary determines that continued retention is necessary for the needs of the Army.".

(2) Such section is further amended by adding at the end the following new subsection:

"(d) Subsection (a)(1) of section 324 of title 32 shall not apply to an officer during any period in which the officer is retained in an active status under this section.".

(b) NAVY.—Subsection (c) of section 6392 of such title is amended—

(1) by striking out "An officer" and inserting in lieu thereof "(1) Except as provided in paragraph (2), an officer";

(2) by striking out "67 years of age" and inserting in lieu thereof "68 years of age"; and

(3) by adding at the end the following new paragraph:

"(2) The Secretary of the Navy may retain an officer (other than an officer in the Chaplain Corps) in an active status under this section after the date on which the officer becomes 68 years of age if

the Secretary determines that continued retention is necessary for the needs of the Navy.".

(c) AIR FORCE.—(1) Subsection (c) of section 8855 of such title is amended—

(A) by striking out "An officer" and inserting in lieu thereof "(1) Except as provided in paragraph (2), an officer";

(B) by striking out "67 years of age" and inserting in lieu thereof "68 years of age"; and

(C) by adding at the end the following new paragraph:

"(2) The Secretary of the Air Force may retain an officer (other than an officer who is designated as a chaplain) in an active status under this section after the date on which the officer becomes 68 years of age if the Secretary determines that continued retention is necessary for the needs of the Air Force.".

(2) Such section is further amended by adding at the end the following new subsection:

"(d) Subsection (a)(1) of section 324 of title 32 shall not apply to an officer during any period in which the officer is retained in an active status under this section.".

SEC. 711. RETENTION OF CERTAIN RESERVE PSYCHOLOGISTS IN ACTIVE STATUS

(a) ARMY.—Section 3855(a) of title 10, United States Code, is amended by striking out "the podiatry specialty in the Medical Allied Sciences Section of the Medical Service Corps, the Optometry Section of the Medical Service Corps," and inserting in lieu thereof the following "the Medical Service Corps (if the officer has been designated as an allied health officer or biomedical sciences officer in that Corps),".

(b) NAVY.—Section 6392(a) of such title is amended by inserting "allied health officer," before "or biomedical sciences officer".

SEC. 712. REALLOCATION OF NAVAL RESERVE REAR ADMIRAL POSITIONS AUTHORIZED FOR HEALTH PROFESSIONS

Effective on October 1, 1990, section 5457(a) of title 10, United States Code, is amended— Effective date.

(1) by striking out "Medical Corps—7" and inserting in lieu thereof "Medical Corps—5"; and

(2) by inserting after and below paragraph (7) the following:

"(8) Nurse Corps—1.

"(9) Medical Service Corps—1.".

PART B—HEALTH CARE MANAGEMENT

SEC. 721. PROHIBITION ON CHARGES FOR OUTPATIENT MEDICAL AND DENTAL CARE 10 USC 1074 note.

During fiscal years 1990 and 1991, the Secretary of Defense may not impose a charge for the receipt of outpatient medical or dental care at a military medical treatment facility.

SEC. 722. SHARING OF HEALTH-CARE RESOURCES WITH THE DEPARTMENT OF VETERANS AFFAIRS

(a) IN GENERAL.—Chapter 55 of title 10, United States Code, is amended by adding at the end the following new section:

"§ 1104. Sharing of health-care resources with the Department of Veterans Affairs

"(a) SHARING OF HEALTH-CARE RESOURCES.—Health-care resources of the Department of Defense may be shared with health-care resources of the Department of Veterans Affairs in accordance with section 5011 of title 38 or under section 1535 of title 31.

"(b) REIMBURSEMENT FROM CHAMPUS FUNDS.—Pursuant to an agreement entered into under section 5011 of title 38 or section 1535 of title 31, the Secretary of a military department may reimburse the Secretary of Veterans Affairs from funds available for that military department for the payment of medical care provided under section 1079 or 1086 of this title.

"(c) CHARGES.—The Secretary of Defense may prescribe by regulation a premium, deductible, copayment, or other charge for health care provided to covered beneficiaries under this chapter pursuant to an agreement entered into by the Secretary of a military department under section 5011 of title 38 or section 1535 of title 31.

"(d) PROVISION OF SERVICES DURING WAR OR NATIONAL EMERGENCY.—Members of the armed forces on active duty during and immediately following a period of war, or during and immediately following a national emergency involving the use of the armed forces in armed conflict, may be provided health-care services by the Department of Veterans Affairs in accordance with section 5011A of title 38.".

(b) CLERICAL AMENDMENT.—The table of sections at the beginning of such chapter is amended by adding at the end the following new item:

"1104. Sharing of health-care resources with the Department of Veterans Affairs.".

10 USC 2687 note.

SEC. 723. PROHIBITION ON REDUCING END STRENGTH LEVELS FOR MEDICAL PERSONNEL AS A RESULT OF BASE CLOSURES AND REALIGNMENTS

(a) PROHIBITION.—The end strength levels for medical personnel for each component of the Armed Forces, and the number of civilian personnel of the Department of Defense assigned to military medical facilities, may not be reduced as a result of the closure or realignment of a military installation under section 2687 of title 10, United States Code, or title II of the Defense Authorization Amendments and Base Closure and Realignment Act (Public Law 100-526; 10 U.S.C. 2687 note).

(b) MEDICAL PERSONNEL DEFINED.—For purposes of subsection (a), the term "medical personnel" has the meaning given that term in subparagraph (D) of section 115(b)(1) of title 10, United States Code.

Regulations. 10 USC 1101 note.

SEC. 724. REVISED DEADLINE FOR THE USE OF DIAGNOSIS-RELATED GROUPS FOR OUTPATIENT TREATMENT

The regulations required by section 1101(a) of title 10, United States Code, to establish the use of diagnosis-related groups as the primary criteria for the allocation of resources to health care facilities of the uniformed services shall be prescribed to take effect not later than October 1, 1991, in the case of outpatient treatments.

SEC. 725. ARMED FORCES HEALTH PROFESSIONS SCHOLARSHIP PROGRAM

(a) SPECIALIZED TRAINING DEFINED.—Section 2120 of title 10, United States Code, is amended by adding at the end the following new paragraph:

"(4) The term 'specialized training' means advanced training in a health professions specialty received in an accredited program that is beyond the basic education required for appointment as a commissioned officer with a designation as a health professional.".

(b) EXPANSION OF PROGRAM.—Section 2121 of such title is amended—

(1) in subsection (a), by striking out "health professions scholarship program" and inserting in lieu thereof "health professions scholarship and financial assistance program";

(2) in subsection (b), by inserting "and specialized training" after "study"; and

(3) in subsection (c)—

(A) by striking out "of the program" in the second sentence and inserting in lieu thereof "pursuing a course of study"; and

(B) by inserting after the second sentence the following new sentence: "Members pursuing specialized training shall serve on active duty in a pay grade commensurate with their educational level, as determined by appointment under sections 3353, 5600, or 8353 of this title, with full pay and allowances of that grade for a period of 14 days during each year of participation in the program.".

(c) ELIGIBILITY.—Paragraph (1) of section 2122(a) of such title is amended by striking out "in a course of study" and all that follows through the semicolon and inserting in lieu thereof "in a course of study or selected to receive specialized training;".

(d) FINANCIAL ASSISTANCE.—(1) Section 2127 of such title is amended by adding at the end the following new subsection:

"(e) A person participating as a member of the program in specialized training shall be paid an annual grant of $15,000 in addition to the stipend under section 2121(d) of this title. The amount of the grant shall be increased annually by the Secretary of Defense, effective July 1 of each year, in the same manner as provided for stipends.". Grants.

(2) The heading of such section is amended to read as follows:

"§ 2127. Scholarships and financial assistance: payments".

(3) The item relating to such section in the table of sections at the beginning of subchapter I of chapter 105 of such title is amended to read as follows:

"2127. Scholarships and financial assistance: payments.".

(e) REPORT ON IMPLEMENTATION.—Not later than March 1, 1990, the Secretary of Defense shall submit to the Committees on Armed Services of the Senate and the House of Representatives a report describing the manner in which the new authority provided by this section is implemented. 10 USC 2127 note.

(f) REPORT ON SUCCESS OF FINANCIAL ASSISTANCE PROGRAM.—(1) The Secretary of Defense shall submit to the Committees on Armed Services of the Senate and House of Representatives a report—

(A) evaluating the success of the financial assistance program established by this section; and

(B) describing the number of participants in the program receiving specialized training payments under subsection (e) of section 2127 of title 10, United States Code (as added by subsection (d)) and the projected number of officers to be gained, by

specialty, as a result of the program for each military department.

(2) The report required by paragraph (1) shall be submitted not later than March 1, 1991.

(g) DELAY IN TARGETING SCHOLARSHIPS FOR CRITICALLY NEEDED WARTIME SKILLS.—Paragraph (2) of section 2124 of such title is amended by inserting "after September 30, 1991," after "(2)".

(h) CLERICAL AMENDMENTS.—(1) Section 2120 of title 10, United States Code, is amended by striking out "the Armed Forces Health Professions Scholarship program" each place it appears and inserting in lieu thereof "the Armed Forces Health Professions Scholarship and Financial Assistance program".

(2) The subchapter heading of subchapter I of chapter 105 of such title is amended to read as follows:

"SUBCHAPTER I—HEALTH PROFESSIONS SCHOLARSHIP AND FINANCIAL ASSISTANCE PROGRAM FOR ACTIVE SERVICE".

(3) The item relating to such subchapter in the table of subchapters at the beginning of such chapter is amended to read as follows:

"I. Health Professions Scholarship and Financial Assistance Program for Active Service ..... 2120".

SEC. 726. UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES AND HENRY M. JACKSON FOUNDATION FOR THE ADVANCEMENT OF MILITARY MEDICINE

(a) INCREASED NUMBER OF EXEMPTIONS FROM DUAL-PAY PROVISION.—Subsection (f)(2) of section 2113 of title 10, United States Code, is amended by striking out "two exemptions" in the last sentence and inserting in lieu thereof "five exemptions".

(b) GRANT AUTHORITY.—(1) Subsection (j)(1)(A) of such section is amended—

(A) by inserting ", accept grants from, and make grants to" after "contracts with"; and

(B) by striking out "or with" and inserting in lieu thereof "or".

(2) Subsection (g)(1) of section 178 of such title is amended by inserting ", accept grants from, and make grants to" after "contracts with".

SEC. 727. RETENTION OF FUNDS COLLECTED FROM THIRD-PARTY PAYERS OF INPATIENT CARE FURNISHED AT FACILITIES OF THE UNIFORMED SERVICES

(a) RETENTION AUTHORIZED.—Section 1095 of title 10, United States Code, is amended—

(1) by redesignating subsection (g) as subsection (h); and

(2) by inserting after subsection (f) the following new subsection (g):

"(g) Amounts collected under this section from a third-party payer for the costs of inpatient hospital care provided at a facility of the uniformed services shall be credited to the appropriation supporting the maintenance and operation of the facility.".

10 USC 1095 note.

(b) EFFECTIVE DATE.—The amendment made by this section shall take effect on October 1, 1989, and shall apply to amounts collected

under section 1095 of title 10, United States Code, on or after that date.

SEC. 728. REALLOCATION OF CERTAIN CIVILIAN PERSONNEL POSITIONS TO MEDICAL SUPPORT

(a) REALLOCATION OF POSITIONS REQUIRED.—In implementing the report of the Deputy Inspector General of the Department of Defense entitled "Review of Unified and Specified Command Headquarters" (completed in February 1988), the Secretary of the Army and the Secretary of the Navy shall reallocate to medical support positions the 939 civilian positions selected for elimination.

(b) REPORT ON REALLOCATION.—(1) The Secretary of the Army and the Secretary of the Navy shall jointly submit to the Committees on Armed Services of the Senate and House of Representatives a report describing, as of the date such report is submitted—

(A) the medical support positions created pursuant to subsection (a);

(B) the location of such positions; and

(C) the duties of the civilian personnel in such positions.

(2) The report required by paragraph (1) shall be submitted not later than March 1, 1990.

SEC. 729. CODIFICATION OF APPROPRIATION PROVISION RELATING TO CHAMPUS

Subsection (c) of section 1074 of title 10, United States Code, is amended by adding at the end the following new sentence: "If a private facility or health care provider providing care under this subsection is a health care provider under the Civilian Health and Medical Program of the Uniformed Services, the Secretary of Defense, after consultation with the other administering Secretaries, may by regulation require the private facility or health care provider to provide such care in accordance with the same payment rules (subject to any modifications considered appropriate by the Secretary) as apply under that program.".

SEC. 730. LIMITATION ON CHAMPUS PAYMENTS TO NONINSTITUTIONAL HEALTH-CARE PROVIDERS

(a) CHANGE IN LIMITATION.—Subsection (h) of section 1079 of title 10, United States Code, is amended by striking out "90th percentile" both places it appears and inserting in lieu thereof "80th percentile".

(b) APPLICABILITY.—The amendment made by subsection (a) shall apply to services provided on or after October 1, 1989. 10 USC 1079 note.

SEC. 731. CLARIFICATION AND CORRECTION OF PROVISIONS RELATING TO HEALTH BENEFITS FOR CERTAIN FORMER SPOUSES

(a) ELIGIBILITY OF CERTAIN FORMER SPOUSES.—Section 1072(2) of title 10, United States Code, is amended—

(1) by striking out "and" at the end of clause (F);

(2) by striking out the period at the end of clause (G) and inserting in lieu thereof "; and"; and

(3) by adding at the end the following new clause:

"(H) a person who would qualify as a dependent under clause (G) but for the fact that the date of the final decree of divorce, dissolution, or annulment of the person is on or after April 1, 1985, except that the term does not include the person after the

end of the one-year period beginning on the date of that final decree.".

(b) AVAILABILITY OF CONVERSION HEALTH POLICIES AND EXTENSION OF ELIGIBILITY FOR MEDICAL AND DENTAL CARE.—(1) Chapter 55 of such title is amended by inserting after section 1086 the following new section:

"§ 1086a. Certain former spouses: extension of period of eligibility for health benefits

"(a) AVAILABILITY OF CONVERSION HEALTH POLICIES.—The Secretary of Defense shall inform each person who has been a dependent for a period of one year or more under section 1072(2)(H) of this title of the availability of a conversion health policy for purchase by the person.

"(b) EFFECT OF PURCHASE.—(1) Subject to paragraph (2), if a person who is a dependent for a one-year period under section 1072(2)(H) of this title purchases a conversion health policy within that period (or within a reasonable time after that period as prescribed by the Secretary of Defense), the person shall continue to be eligible for medical and dental care in the manner described in section 1076 of this title and health benefits under section 1086 of this title until the end of the one-year period beginning on the later of—

"(A) the date the person is no longer a dependent under section 1072(2)(H) of this title; and

"(B) the date of the purchase of the policy.

"(2) The extended period of eligibility provided under paragraph (1) shall apply only with regard to a condition of the person that—

"(A) exists on the date on which coverage under the conversion health policy begins; and

"(B) for which care is not provided under the policy solely on the grounds that the condition is a preexisting condition.

"(c) CONVERSION HEALTH POLICY DEFINED.—In this section, the term 'conversion health policy' means a health insurance policy with a private insurer, developed through negotiations between the Secretary of Defense and the private insurer, that is available for purchase by or for the use of a person who is a dependent for a one-year period under section 1072(2)(H) of this title.".

(2) The table of sections at the beginning of such chapter is amended by inserting after the item relating to section 1086 the following new item:

"1086a. Certain former spouses: extension of period of eligibility for health benefits.".

(c) CONFORMING AMENDMENTS.—(1) Subsection (f) of section 1076 of such title is repealed.

(2) Paragraph (3) of section 1086(c) of such title is amended to read as follows:

"(3) A dependent covered by clause (F), (G), or (H) of section 1072(2) of this title who is not eligible under paragraph (1).".

10 USC 1072 note.

(d) EFFECTIVE DATE; APPLICATION OF AMENDMENTS.—(1) The amendments made by this section apply to a person referred to in section 1072(2)(H) of title 10, United States Code (as added by subsection (a)), whose decree of divorce, dissolution, or annulment becomes final on or after the date of the enactment of this Act.

(2) The amendments made by this section shall also apply to a person referred to in such section whose decree of divorce, dissolution, or annulment became final during the period beginning on

September 29, 1988, and ending on the day before the date of the enactment of this Act, as if the amendments had become effective on September 29, 1988.

(e) TRANSITION.—(1) In the case of a person who qualified as a dependent under section 645(c) of the Department of Defense Authorization Act, 1985 (Public Law 98-525; 98 Stat. 2549), on September 28, 1988, the Secretary of Defense shall make a conversion health policy available for purchase by the person during the remaining period the person is considered to be a dependent under that section (or within a reasonable time after that period as prescribed by the Secretary of Defense). 10 USC 1072 note.

(2) Purchase of a conversion health policy under paragraph (1) by a person shall entitle the person to health care for preexisting conditions in the same manner and to the same extent as provided by section 1086a(b) of title 10, United States Code (as added by subsection (b)), until the end of the one-year period beginning on the later of—

(A) the date the person is no longer qualified as a dependent under section 645(c) of the Department of Defense Authorization Act, 1985; and

(B) the date of the purchase of the policy.

(3) For purposes of this subsection, the term "conversion health policy" has the meaning given that term in section 1086a(c) of title 10, United States Code (as added by subsection (b)).

TITLE VIII—ACQUISITION POLICY, ACQUISITION MANAGEMENT, AND RELATED MATTERS

PART A—PROCEDURES FOR MAJOR DEFENSE ACQUISITION PROGRAMS

SEC. 801. ASSESSMENT OF RISK IN CONCURRENT DEVELOPMENT OF MAJOR DEFENSE ACQUISITION SYSTEMS

10 USC 2399 note.

(a) ESTABLISHMENT OF POLICY.—The Secretary of Defense shall establish guidelines for—

(1) determining the degree of concurrency that is appropriate for the development of major defense acquisition systems; and

(2) assessing the degree of risk associated with various degrees of concurrency.

(b) REPORT ON GUIDELINES.—The Secretary shall submit to Congress a report that describes the guidelines established under subsection (a) and the method used for assessing risk associated with concurrency.

(c) REPORT ON CONCURRENCY IN MAJOR ACQUISITION PROGRAMS.—(1) The Secretary shall also submit to Congress a report outlining the risk associated with concurrency for each major defense acquisition program that is in either full-scale development or low-rate initial production as of January 1, 1990.

(2) The report shall include consideration of the following matters with respect to each such program:

(A) The degree of confidence in the enemy threat assessment for establishing the system's requirements.

(B) The type of contract involved.

(C) The degree of stability in program funding.

(D) The level of maturity of technology involved in the system.

(E) The availability of adequate test assets, including facilities and ranges.

(F) The plans for transition from development to production.

(d) SUBMISSION OF REPORTS.—The reports under subsections (b) and (c) shall be submitted to Congress not later than March 1, 1990.

(e) DEFINITION.—For purposes of this section, the term "concurrency" means the degree of overlap between the development and production processes of an acquisition program.

SEC. 802. OPERATIONAL TEST AND EVALUATION

(a) IN GENERAL.—(1) Chapter 141 of title 10, United States Code, is amended by inserting after section 2398 the following new section:

"§ 2399. Operational test and evaluation of defense acquisition programs

"(a) CONDITION FOR PROCEEDING BEYOND LOW-RATE INITIAL PRODUCTION.—(1) The Secretary of Defense shall provide that a major defense acquisition program may not proceed beyond low-rate initial production until initial operational test and evaluation of the program is completed.

"(2) In this subsection, the term "major defense acquisition program" means—

"(A) a conventional weapons system that is a major system within the meaning of that term in section 2302(5) of this title; and

"(B) is designed for use in combat.

"(b) OPERATIONAL TEST AND EVALUATION.—(1) Operational testing of a major defense acquisition program may not be conducted until the Director of Operational Test and Evaluation of the Department of Defense approves (in writing) the adequacy of the plans (including the projected level of funding) for operational test and evaluation to be conducted in connection with that program.

"(2) The Director shall analyze the results of the operational test and evaluation conducted for each major defense acquisition program. At the conclusion of such testing, the Director shall prepare a report stating the opinion of the Director as to— Reports.

"(A) whether the test and evaluation performed were adequate; and

"(B) whether the results of such test and evaluation confirm that the items or components actually tested are effective and suitable for combat.

"(3) The Director shall submit each report under paragraph (2) to the Secretary of Defense, the Under Secretary of Defense for Acquisition, and the congressional defense committees. Each such report shall be submitted to those committees in precisely the same form and with precisely the same content as the report originally was submitted to the Secretary and Under Secretary and shall be accompanied by such comments as the Secretary may wish to make on the report.

"(4) A final decision within the Department of Defense to proceed with a major defense acquisition program beyond low-rate initial production may not be made until the Director has submitted to the Secretary of Defense the report with respect to that program under paragraph (2) and the congressional defense committees have received that report.

"(5) In this subsection, the term "major defense acquisition program" has the meaning given that term in section 138(a)(2)(B) of this title.

"(c) DETERMINATION OF QUANTITY OF ARTICLES REQUIRED FOR OPERATIONAL TESTING.—The quantity of articles of a new system that are to be procured for operational testing shall be determined by—

"(1) the Director of Operational Test and Evaluation of the Department of Defense, in the case of a new system that is a major defense acquisition program (as defined in section 138(a)(2)(B) of this title); or

"(2) the operational test and evaluation agency of the military department concerned, in the case of a new system that is not a major defense acquisition program.

"(d) IMPARTIALITY OF CONTRACTOR TESTING PERSONNEL.—In the case of a major defense acquisition program (as defined in subsection (a)(2)), no person employed by the contractor for the system being tested may be involved in the conduct of the operational test and evaluation required under subsection (a). The limitation in the preceding sentence does not apply to the extent that the Secretary of Defense plans for persons employed by that contractor to be involved in the operation, maintenance, and support of the system being tested when the system is deployed in combat.

"(e) IMPARTIAL CONTRACTED ADVISORY AND ASSISTANCE SERVICES.—(1) The Director may not contract with any person for advisory and assistance services with regard to the test and evaluation of a system if that person participated in (or is participating in) the development, production, or testing of such system for a military department or Defense Agency (or for another contractor of the Department of Defense).

"(2) The Director may waive the limitation under paragraph (1) in any case if the Director determines in writing that sufficient steps have been taken to ensure the impartiality of the contractor in providing the services. The Inspector General of the Department of Defense shall review each such waiver and shall include in the Inspector General's semi-annual report an assessment of those waivers made since the last such report. Reports.

"(3) A contractor that has participated in (or is participating in) the development, production, or testing of a system for a military department or Defense Agency (or for another contractor of the Department of Defense) may not be involved (in any way) in the establishment of criteria for data collection, performance assessment, or evaluation activities for the operational test and evaluation.

"(f) SOURCE OF FUNDS FOR TESTING.—The costs for all tests required under subsection (a) shall be paid from funds available for the system being tested.

"(g) DIRECTOR'S ANNUAL REPORT.—As part of the annual report of the Director under section 138 of this title, the Director shall describe for each program covered in the report the status of test and evaluation activities in comparison with the test and evaluation master plan for that program, as approved by the Director. The Director shall include in such annual report a description of each waiver granted under subsection (e)(2) since the last such report.

"(h) DEFINITIONS.—In this section:

"(1) The term 'operational test and evaluation' has the meaning given that term in section 138(a)(2)(A) of this title. For

purposes of subsection (a), that term does not include an operational assessment based exclusively on—

"(A) computer modeling;

"(B) simulation; or

"(C) an analysis of system requirements, engineering proposals, design specifications, or any other information contained in program documents.

"(2) The term 'congressional defense committees' means the Committees on Armed Services and the Committees on Appropriations of the Senate and House of Representatives.".

(2) The table of sections at the beginning of such chapter is amended by inserting after the item relating to section 2398 the following new item:

"2399. Operational test and evaluation of defense acquisition programs.".

(b) CONFORMING AMENDMENTS TO SECTION 138.—Section 138 of such title is amended—

(1) in subsection (b)—

(A) by inserting "and" at the end of paragraph (4);

(B) by striking out paragraph (5); and

(C) by redesignating paragraph (6) as paragraph (5);

(2) by striking out subsection (c);

(3) by striking out "(d)(1)" and inserting in lieu thereof "(c)";

(4) by striking out "(2) The Director may not" and inserting in lieu thereof "(d) The Director may not";

(5) by striking out subsection (f);

(6) by striking out "(g)(1)" and inserting in lieu thereof "(f)";

(7) by striking out "this paragraph" in the last sentence of subsection (f), as designated by paragraph (6), and inserting in lieu thereof "this subsection"; and

(8) by striking out "(2) The Director shall" and inserting in lieu thereof "(g) The Director shall".

(c) CONFORMING AMENDMENTS TO SECTION 2366.—(1) Subsection (a)(1) of section 2366 of such title is amended—

(A) by inserting "and" at the end of subparagraph (A);

(B) by striking out "; and" at the end of subparagraph (B) and inserting in lieu thereof a period; and

(C) by striking out subparagraph (C).

(2) Subsection (b) of such section is amended—

(A) by striking out paragraph (2); and

(B) by redesignating paragraph (3) as paragraph (2).

(3) Subsection (e) of such section is amended—

(A) by striking out paragraphs (3) and (7); and

(B) by redesignating paragraphs (4), (5), (6), and (8) as paragraphs (3), (4), (5), and (6), respectively.

(4)(A) The heading of such section is amended to read as follows:

"§ 2366. Major systems and munitions programs: survivability testing and lethality testing required before full-scale production".

(B) The item relating to such section in the table of sections at the beginning of chapter 139 of such title is amended to read as follows:

"2366. Major systems and munitions programs: survivability testing and lethality testing required before full-scale production".

SEC. 803. LOW-RATE INITIAL PRODUCTION

(a) IN GENERAL.—Chapter 141 of title 10, United States Code, is amended by inserting after section 2399 (as added by section 802) the following new section:

"§ 2400. Low-rate initial production of new systems

"(a) DETERMINATION OF QUANTITIES TO BE PROCURED FOR LOW-RATE INITIAL PRODUCTION.—(1) In the course of the development of a major system, the determination of what quantity of articles of that system should be procured for low-rate initial production (including the quantity to be procured for preproduction verification articles) shall be made—

"(A) when the milestone II decision with respect to that system is made; and

"(B) by the official of the Department of Defense who makes that decision.

"(2) In paragraph (1), the term 'milestone II decision' means the decision to approve the full-scale engineering development of a major system by the official of the Department of Defense designated to have the authority to make that decision.

"(3) Any increase from a quantity determined under paragraph (1) may only be made with the approval of the official making the determination.

"(4) The Secretary of Defense shall include a statement of the quantity determined under paragraph (1) in the first SAR submitted with respect to the program concerned after that quantity is determined. For purposes of the preceding sentence, the term 'SAR' means a Selected Acquisition Report submitted under section 2432 of this title.

"(b) LOW-RATE INITIAL PRODUCTION OF WEAPON SYSTEMS.—Except as provided in subsection (c), low-rate initial production with respect to a new system is production of the system in the minimum quantity necessary—

"(1) to provide production-configured or representative articles for operational tests pursuant to section 2399 of this title;

"(2) to establish an initial production base for the system; and

"(3) to permit an orderly increase in the production rate for the system sufficient to lead to full-rate production upon the successful completion of operational testing.

"(c) LOW-RATE INITIAL PRODUCTION OF NAVAL VESSEL AND SATELLITE PROGRAMS.—(1) With respect to naval vessel programs and military satellite programs, low-rate initial production is production of items at the minimum quantity and rate that (A) preserves the mobilization production base for that system, and (B) is feasible, as determined pursuant to regulations prescribed by the Secretary of Defense.

"(2) For each naval vessel program and military satellite program, the Secretary of Defense shall submit to Congress a report providing— Reports.

"(A) an explanation of the rate and quantity prescribed for low-rate initial production and the considerations in establishing that rate and quantity;

"(B) a test and evaluation master plan for that program; and

"(C) an acquisition strategy for that program that has been approved by the Secretary, to include the procurement objec-

tives in terms of total quantity of articles to be procured and annual production rates.".

(b) CLERICAL AMENDMENT.—The table of sections at the beginning of such chapter is amended by inserting after the item relating to section 2399 (as added by section 802) the following new item:

"2400. Low-rate initial production of new systems.".

SEC. 804. MODIFICATIONS WITH RESPECT TO REPORTS ON LIVE-FIRE TESTING PROGRAMS

(a) TESTING REPORT TO BE SUBMITTED BEFORE PRODUCTION.—Subsection (a)(1) of section 2366 of title 10, United States Code (as amended by section 842), is amended by inserting "and the report required by subsection (d) with respect to that testing is submitted in accordance with that subsection" after "this section" in subparagraphs (A) and (B).

(b) CONTENT OF TESTING REPORT.—Subsection (d) of such section is amended by adding at the end the following: "Each such report shall describe the results of the survivability or lethality testing and shall give the Secretary's overall assessment of the testing.".

SEC. 805. PROCEDURES APPLICABLE TO MULTIYEAR PROCUREMENT CONTRACTS

(a) ADDITIONAL REQUIREMENTS.—Section 2306(h) of title 10, United States Code, is amended by adding at the end the following new paragraphs:

"(9) A multiyear contract may not be entered into for any fiscal year under this subsection unless each of the following conditions is satisfied:

"(A) The Secretary of Defense certifies to Congress that the current five-year defense program fully funds the support costs associated with the multiyear program.

"(B) The proposed multiyear contract provides for production at not less than minimum economic rates given the existing tooling and facilities.

"(C) The proposed multiyear contract—

"(i) achieves a 10 percent savings as compared to the cost of current negotiated contracts, adjusted for changes in quantity and for inflation; or

"(ii) achieves a 10 percent savings as compared to annual contracts if no recent contract experience exists.

"(10) The Secretary of Defense may instruct the Secretary of the military department concerned to incorporate into a proposed multiyear contract negotiated priced options for varying the quantities of end items to be procured over the period of the contract.

"(11) If for any fiscal year a multiyear contract to be entered into under this subsection is authorized by law for a particular procurement program and that authorization is subject to certain conditions established by law (including a condition as to cost savings to be achieved under the multiyear contract in comparison to specified other contracts) and if it appears (after negotiations with contractors) that such savings cannot be achieved, but that substantial savings could nevertheless be achieved through the use of a multiyear contract rather than specified other contracts, the President may submit to Congress a request for relief from the specified cost savings that must be achieved through multiyear contracting for that program. Any such request by the President shall include

details about the request for a multiyear contract, including details about the negotiated contract terms and conditions.".

(b) CONFORMING REPEAL.—Section 104 of Public Law 100-526 (102 Stat. 2624) is repealed. 10 USC 2306 note.

(c) TRANSITION.—Subparagraph (C) of paragraph (9) of section 2306(h) of title 10, United States Code, as added by subsection (a), does not apply to programs that are under a multiyear contract on the date of the enactment of this Act. 10 USC 2306 note.

SEC. 806. REVISION OF LIMITATION ON TRANSFER OF CERTAIN TECHNICAL DATA PACKAGES TO FOREIGN COUNTRIES

(a) COUNTRIES TO WHICH TRANSFERS MAY BE MADE.—Subsection (b) of section 4542 of title 10, United States Code, is amended—

(1) in paragraph (1), by striking out "a friendly foreign country" and inserting in lieu thereof "a member nation of the North Atlantic Treaty Organization or a country designated as a major non-NATO ally";

(2) in paragraph (2)(B), by inserting ", except as provided in subsection (e)" before the semicolon at the end; and

(3) in paragraph (3), by inserting "or (d)" after "subsection (c)".

(b) COOPERATIVE PROJECT AGREEMENTS.—Such section is further amended—

(1) by redesignating subsections (d), (e), and (f) as subsections (f), (g), and (h), respectively; and

(2) by inserting after subsection (c) the following new subsections:

"(d) COOPERATIVE PROJECT AGREEMENTS.—An agreement under this subsection is a cooperative project agreement under section 27 of the Arms Export Control Act (22 U.S.C. 2767) which includes provisions that—

"(1) for development phases describe the technical data to be transferred and for the production phase prescribe the content of the technical data package or assistance to be transferred to the foreign country participating in the agreement;

"(2) require that at least the United States production of the defense item to which the technical data package or assistance relates be carried out by the arsenal concerned; and

"(3) require the Secretary of Defense to monitor compliance with the agreement.

"(e) LICENSING FEES AND ROYALTIES.—The limitation in subsection (b)(2)(B) shall not apply if the technology (or production technique) transferred is subject to nonexclusive license and payment of any negotiated licensing fee or royalty that reflects the cost of development, implementation, and prove-out of the technology or production technique. Any negotiated license fee or royalty shall be placed in the operating fund of the arsenal concerned for the purpose of capital investment and technology development at that arsenal.".

(c) CONFORMING AMENDMENT.—Subsection (f) of such section (as redesignated by subsection (b)(1)) is amended by inserting "or a cooperative project" in paragraph (1) after "cooperative research and development program".

PART B—CHANGES TO ACQUISITION STATUTES

SEC. 811. ACQUISITION REPORT STREAMLINING

(a) UNIT COST REPORTS.—(1) Subsection (a) of section 2433 of title 10, United States Code, is amended—

(A) in paragraph (2), by inserting "the service acquisition executive designated by" before "the Secretary concerned"; and

(B) in paragraph (4)—

(i) by inserting "the service acquisition executive designated by" before "the Secretary concerned";

(ii) in clause (A), by striking out "unit cost report submitted under subsection (e)(2)(B)(ii) with respect to" and inserting in lieu thereof "Selected Acquisition Report submitted under subsection (e)(2)(B) that includes information on"; and

(iii) in clause (B), by striking out "subsection (e)(2)(B)(ii) with respect to the program during that three-quarter period, the most recent unit cost report submitted under subsection (e)(1) with respect to the program" and inserting in lieu thereof "subsection (e)(2)(B) with respect to the program during that three-quarter period, the most recent Selected Acquisition Report submitted under subsection (e)(1) that includes information on the program".

(2) Subsection (b) of section 2433 of such title is amended—

(A) by striking out "(b) The program manager" and all that follows through the colon preceding paragraph (1) and inserting in lieu thereof the following:

"(b) The program manager for a major defense acquisition program (other than a program not required to be included in the Selected Acquisition Report for that quarter under section 2432(b)(3) of this title) shall, on a quarterly basis, submit to the service acquisition executive designated by the Secretary concerned a written report on the unit costs of the program. Each report shall be submitted not more than 7 days (excluding Saturdays, Sundays, and legal public holidays) after the end of that quarter. The program manager shall include in each such unit cost report the following information with respect to the program (as of the last day of the quarter for which the report is made):"; and

(B) in paragraph (4), by striking out "Selected Acquisition Report" and inserting in lieu thereof "description established under section 2435 of this title".

(3) Subsection (c) of section 2433 of such title is amended—

(A) in paragraph (1)—

(i) by striking out "fiscal-year" in the matter above clause (A); and

(ii) in the matter following clause (C)—

(I) by inserting "the service acquisition executive designated by" before "the Secretary concerned" the first place it appears;

(II) by striking out "(other than the unit cost report under subsection (b) for the last quarter of the preceding fiscal year)" and inserting in lieu thereof "(other than the last quarterly unit cost report under subsection (b) for the preceding fiscal year)"; and

(III) by striking out "Secretary concerned" the second place it appears and inserting in lieu thereof "such service acquisition executive"; and

(B) in paragraph (2)—

(i) in the matter above clause (A)—

(I) by inserting "the service acquisition executive designated by" before "the Secretary concerned" the first place it appears; and

(II) by striking out "(other than the unit cost report under subsection (b) for the last quarter of the preceding fiscal year)" and inserting in lieu thereof "(other than the last quarterly unit cost report under subsection (b) for the preceding fiscal year)"; and

(ii) by striking out "Secretary concerned" each place it appears in clauses (A), (B), and (C) and in the matter following clause (C) and inserting in lieu thereof "such service acquisition executive".

(4) Subsection (d) of section 2433 of such title is amended—

(A) in paragraph (1)—

(i) by inserting "the service acquisition executive designated by" before "the Secretary concerned" the first place it appears; and

(ii) by striking out "Secretary shall determine" and inserting in lieu thereof "service acquisition executive shall determine";

(B) in paragraph (2)—

(i) by inserting "the service acquisition executive designated by" before "the Secretary concerned" the first place it appears; and

(ii) by striking out "Secretary concerned shall, in addition to the determination under paragraph (1), determine" and inserting in lieu thereof "service acquisition executive, in addition to the determination under paragraph (1), shall determine"; and

(C) by striking out paragraph (3) and inserting in lieu thereof the following:

"(3) If, based upon the service acquisition executive's determination, the Secretary concerned determines (for the first time since the beginning of the current fiscal year) that the current program acquisition unit cost has increased by more than 15 percent, or by more than 25 percent, as determined under paragraph (1) or that the current procurement unit cost has increased by more than 15 percent, or by more than 25 percent, as determined under paragraph (2), the Secretary shall notify Congress in writing of such determination and of the increase with respect to such program within 30 days after the date on which the service acquisition executive reports his determination of such increase in such unit cost to the Secretary and shall include in such notification the date on which the determination was made.".

(5) Subsection (e) of section 2433 of such title is amended—

(A) by striking out "(e)(1)" and all that follows through the end of paragraph (2) and inserting in lieu thereof the following:

"(e)(1)(A) Except as provided in subparagraph (B), whenever the Secretary concerned determines under subsection (d) that the current program acquisition cost of a major defense acquisition program has increased by more than 15 percent, a Selected Acquisition Report shall be submitted to Congress for the first fiscal-year quar-

ter ending on or after the date of the determination and such report shall include the information described in section 2432(e) of this title. The report shall be submitted within 45 days after the end of that quarter.

"(B) Whenever the Secretary makes a determination referred to in subparagraph (A) in the case of a major defense acquisition program during the second quarter of a fiscal year and before the date on which the President transmits the budget for the following fiscal year to Congress pursuant to section 1105 of title 31, the Secretary is not required to file a Selected Acquisition Report under subparagraph (A) but shall include the information described in subsection (g) regarding that program in the comprehensive annual Selected Acquisition Report submitted in that quarter.

"(2) If the percentage increase in the current program acquisition cost of a major defense acquisition program (as determined by the Secretary under subsection (d)) exceeds 25 percent, the Secretary of Defense shall submit to Congress, before the end of the 30-day period beginning on the day the Selected Acquisition Report containing the information described in subsection (g) is required to be submitted under section 2432(f) of this title—

"(A) a written certification, stating that—

"(i) such acquisition program is essential to the national security;

"(ii) there are no alternatives to such acquisition program which will provide equal or greater military capability at less cost;

"(iii) the new estimates of the program acquisition unit cost or procurement unit cost are reasonable; and

"(iv) the management structure for the acquisition program is adequate to manage and control program acquisition unit cost or procurement unit cost; and

"(B) if a report under paragraph (1) has been previously submitted to Congress with respect to such program for the current fiscal year but was based upon a different unit cost report from the program manager to the service acquisition executive designated by the Secretary concerned, a further report containing the information described in subsection (g), determined from the time of the previous report to the time of the current report."; and

(B) in paragraph (3)—

(i) by striking out "(3)" and inserting in lieu thereof the following: "(3) If a determination of a more than 15 percent increase is made by the Secretary under subsection (d) and a Selected Acquisition Report containing the information described in subsection (g) is not submitted to Congress under paragraph (1), or if a determination of a more than 25 percent increase is made by the Secretary under subsection (d) and the certification of the Secretary of Defense is not submitted to Congress under paragraph (2), funds appropriated for military construction, for research, development, test, and evaluation, and for procurement may not be obligated for a major contract under the program.";

(ii) by striking out "in subsection (d)(3)(B)";

(iii) in clause (A)—

(I) by striking out "report of the Secretary concerned" and inserting in lieu thereof "Selected Acquisition Report"; and

(II) by striking out "(2)(B)(ii)" and inserting in lieu thereof "(2)(B)"; and

(iv) in clause (B)—

(I) by striking out "report of the Secretary concerned" and inserting in lieu thereof "Selected Acquisition Report";

(II) by striking out "(2)(B)(ii)" and inserting in lieu thereof "(2)(B)"; and

(III) by striking out "(2)(B)(i)" and inserting in lieu thereof "(2)(A)".

(6) Subsection (g)(2) of section 2433 of such title is amended by adding at the end the following new sentence: "The certification of the Secretary of Defense under subsection (e) is not required to be submitted for termination or cancellation of a program.".

(b) ENHANCED PROGRAM STABILITY.—Section 2435 of title 10, United States Code, is amended—

(1) in subsection (a)(2)(B)(iv), by striking out "development" and inserting in lieu thereof "production"; and

(2) in subsection (b)—

(A) by striking out "senior procurement executive of such military department (designated pursuant to section 16(3) of the Office of Federal Procurement Policy Act (41 U.S.C. 414(3))" in paragraph (1) and inserting in lieu thereof "service acquisition executive designated by such Secretary"; and

(B) by striking out "90 days—" in paragraph (2) and inserting in lieu thereof "180 days—".

(c) SELECTED ACQUISITION REPORTS.—Section 2432(b)(2)(A) of title 10, United States Code, is amended by striking out "5 percent change in total program cost" and inserting in lieu thereof "15 percent increase in program acquisition unit cost and current procurement unit cost".

SEC. 812. THREE-YEAR PROGRAM FOR USE OF MASTER AGREEMENTS FOR PROCUREMENT OF ADVISORY AND ASSISTANCE SERVICES

Section 2304 of title 10, United States Code, is amended by adding at the end the following new subsection:

"(j)(1) The Secretary of Defense may enter into agreements (known as 'master agreements') with responsible sources under which the Secretary may issue orders for the performance of specific advisory and assistance services. Any such agreement shall specify terms and conditions for the subsequent procurement of advisory and assistance services from the sources. The period covered by any such agreement may not exceed two years. Any such agreement may only be entered into using procedures that, in the case of the award of a contract, would be competitive procedures. Any such agreement shall be entered into with at least three of the sources that submit offers for the master agreement.

"(2) Following the establishment of sources for advisory and assistance services through the use of a master agreement described in paragraph (1), the Secretary of Defense (A) may request offers from all sources with master agreements for the services for which offers are being requested if the contracting officer determines that there is a reasonable expectation that offers will be obtained from at least two sources, and (B) may issue orders (known as 'task orders') pursuant to the request for offers to such sources for the perform-

ance of specific advisory and assistance services, subject to the requirements of this subsection. Any such request for offers shall contain a statement of work clearly specifying all tasks to be performed under the order. Upon evaluation of an offer or offers resulting from a request, the task order shall be issued to the source submitting the offer that the Secretary of Defense determines to be the most advantageous to the United States, considering only cost or price and other factors included in the request for offers.

"(3)(A) The requirements for the giving of notice of certain solicitations that are prescribed in section 18 of the Office of Federal Procurement Policy Act (41 U.S.C. 416) and section 8(e) of the Small Business Act (15 U.S.C. 637(e)) shall apply to solicitations for offers for a master agreement under this subsection in the same manner and to the same extent as those requirements apply to solicitations for proposals for a contract for services for a price expected to exceed $25,000.

"(B) Such requirements for the giving of notice shall not apply to the issuance of orders under a master agreement entered into pursuant to the procedures established under this section, except that the Secretary of Defense shall furnish for publication by the Secretary of Commerce a notice announcing the order.

"(4) The total value of task orders issued under master agreements by any contracting activity in a fiscal year may not exceed the amount equal to 30 percent of the value of all contracts for advisory and assistance services awarded by that contracting activity during fiscal year 1989.

"(5) The authority provided by this subsection to enter into master agreements shall terminate at the end of the three-year period beginning on the date on which final regulations prescribed to carry out this subsection take effect.".

SEC. 813. AVAILABILITY OF FUNDS FOR OBLIGATION FOLLOWING THE RESOLUTION OF A PROTEST

(a) IN GENERAL.—Subchapter IV of chapter 15 of title 31, United States Code, is amended by adding at the end the following new section:

"§ 1558. Availability of funds following resolution of a protest

"(a) Notwithstanding section 1552 of this title or any other provision of law, funds available to an agency for obligation for a contract at the time a protest is filed in connection with a solicitation for, proposed award of, or award of such contract shall remain available for obligation for 90 working days after the date on which the final ruling is made on the protest. A ruling is considered final on the date on which the time allowed for filing an appeal or request for reconsideration has expired, or the date on which a decision is rendered on such an appeal or request, whichever is later.

"(b) Subsection (a) applies with respect to any protest filed under subchapter V of chapter 35 of this title or under section 111(f) of the Federal Property and Administrative Services Act of 1949 (40 U.S.C. 759(f)).".

(b) CLERICAL AMENDMENT.—The table of sections at the beginning of such chapter is amended by adding at the end the following new item:

"1558. Availability of funds following resolution of a protest.".

SEC. 814. POST-EMPLOYMENT RESTRICTIONS

(a) CLARIFICATION.—(1) Section 27 of the Office of Federal Procurement Policy Act (41 U.S.C. 423) is amended—

(A) by inserting ", except as provided in subsection (c)" in subsections (a)(1) and (b)(1) before the semicolon;

(B)(i) by redesignating subsections (j) through (n) as subsections (l) through (p), respectively; and

(ii) by redesignating subsections (c) through (i) as subsections (d) through (j), respectively; and

(C) by inserting after subsection (b) the following new subsection (c):

"(c) RECUSAL.—(1) A procurement official may engage in a discussion with a competing contractor that is otherwise prohibited by subsection (b)(1) if, before engaging in such discussion—

"(A) the procurement official proposes in writing to disqualify himself from the conduct of any procurement relating to the competing contractor (i) for any period during which future employment or business opportunities for such procurement official with such competing contractor have not been rejected by either the procurement official or the competing contractor, and (ii) if determined to be necessary by the head of such procuring official's procuring activity (or his designee) in accordance with criteria prescribed in implementing regulations, for a reasonable period thereafter; and

"(B) the head of that procuring activity of such procurement official (or his designee), after consultation with the appropriate designated agency ethics official, approves in writing the recusal of the procurement official.

"(2) A procurement official who, during the period beginning with the issuance of a procurement solicitation and ending with the award of a contract, has participated personally and substantially in the evaluation of bids or proposals, selection of sources, or conduct of negotiations in connection with such solicitation and contract may not be approved for a recusal under paragraph (1) during such period with respect to such procurement.

"(3) A procurement official who, during the period beginning with the negotiation of a modification or extension of a contract and ending with—

"(A) an agreement to modify or extend the contract, or

"(B) a decision not to modify or extend the contract,

has participated personally and substantially in the evaluation of a proposed modification or extension or the conduct of negotiations may not be approved for a recusal under paragraph (1) during such period with respect to such procurement.

"(4) A competing contractor may engage in a discussion with a procurement official that is otherwise prohibited by subsection (a)(1) if, before engaging in such discussion, the procurement official has been recused in accordance with this subsection.

"(5) Regulations implementing this subsection shall include specific criteria to be used in making determinations and approving recusals under paragraph (1).".

(2) Subsection (f) of such section (as redesignated by paragraph (1)(B)) is amended—

(A) by redesignating paragraphs (1) and (2) as subparagraphs (A) and (B), respectively;

(B) by striking out "RESTRICTIONS ON GOVERNMENTAL OFFICIALS AND EMPLOYEES.—No" and all that follows through "shall—" and inserting in lieu thereof "RESTRICTIONS RESULTING FROM PROCUREMENT ACTIVITIES OF PROCUREMENT OFFICIALS.—(1) No individual who, while serving as an officer or employee of the Government or member of the Armed Forces, was a procurement official with respect to a particular procurement may knowingly—"; and

(C) by adding at the end the following new paragraph:

"(2) This subsection does not apply to any participation referred to in paragraph (1)(A) or (1)(B) with respect to a subcontractor who is a competing contractor unless—

"(A) the subcontractor is a first or second tier subcontractor and the subcontract is for an amount that is in excess of $100,000;

"(B) the subcontractor significantly assisted the prime contractor with respect to negotiation of the prime contract;

"(C) the procurement official involved in the award, modification, or extension of the prime contract personally directed or recommended the particular subcontractor to the prime contractor as a source for the subcontract; or

"(D) the procurement official personally reviewed and approved the award, modification, or extension of the subcontract.".

(3) Such section is further amended by inserting after subsection (j) (as redesignated by paragraph (1)(B)) the following new subsection (k):

"(k) ETHICS ADVICE.—(1) Regulations implementing this section shall include procedures for a procurement official or former procurement official of a Federal agency to request advice from the appropriate designated agency ethics official regarding whether such procurement official or former procurement official is or would be precluded by this section from engaging in a specified activity.

"(2) A procurement official or former procurement official of an agency who requests advice from a designated agency ethics official pursuant to paragraph (1) shall provide the agency ethics official with all information reasonably available to the procurement official or former procurement official that is relevant to a determination regarding such request.

"(3) Not later than 30 days after the date on which the appropriate designated agency ethics official receives a request for advice pursuant to paragraph (1) accompanied by the information required by paragraph (2), or as soon thereafter as practicable, the official shall issue a written opinion regarding whether the requesting procurement official or former procurement official is precluded by this section from engaging in the specified activity.".

(4) Subsection (o) of such section (as redesignated by paragraph (1)(B)) is amended to read as follows:

"(o) IMPLEMENTING REGULATIONS AND GUIDELINES.—(1) Government-wide regulations and guidelines appropriate to carry out this section shall be included in the Federal Acquisition Regulation.

"(2) Regulations implementing this section shall—

"(A) define the term 'thing of value' for the purposes of this section and shall include a single uniform Government-wide exclusion at a specific minimal dollar amount; and

"(B) authorize the delegation of the functions assigned to designated agency ethics officials under this section.

"(3) Notwithstanding sections 6 and 25 of this Act, on and after June 1, 1990, the Director of the Office of Government Ethics shall have the responsibility for issuance, modification, or termination of Government-wide regulations implementing paragraphs (1) and (2) of subsection (a), paragraphs (1) and (2) of subsection (b), subsections (c), (f), and (k), and paragraph (2) of this subsection. The Director shall exercise such responsibility in coordination with the Federal Acquisition Regulatory Council.".

(b) DEFINITIONS.—Subsection (p) of section 27 of such Act (as redesignated by subsection (a)(1)(B)) is amended—

(1) in paragraph (1), by striking out "with the development, preparation, and issuance of a procurement solicitation," and inserting in lieu thereof "on the earliest specific date, as determined under implementing regulations, on which an authorized official orders or requests an action described in clauses (i)–(viii) of paragraph (3)(A),";

(2) in paragraph (3), by striking out subparagraph (A) and inserting in lieu thereof the following:

"(A) The term 'procurement official' means, with respect to any procurement (including the modification or extension of a contract), any civilian or military official or employee of an agency who has participated personally and substantially in any of the following, as defined in implementing regulations:

"(i) The drafting of a specification developed for that procurement.

"(ii) The review and approval of a specification developed for that procurement.

"(iii) The preparation or issuance of a procurement solicitation in that procurement.

"(iv) The evaluation of bids or proposals for that procurement.

"(v) The selection of sources for that procurement.

"(vi) The conduct of negotiations in the procurement.

"(vii) The review and approval of the award, modification, or extension of a contract in that procurement.

"(viii) Such other specific procurement actions as may be specified in implementing regulations."; and

(3) by adding at the end the following new paragraph:

"(8) The term 'designated agency ethics official' has the same meaning as the term 'designated agency official' in section 209(10) of the Ethics in Government Act of 1978 (92 Stat. 1850; 5 U.S.C. App.).".

(c) TECHNICAL AND CONFORMING AMENDMENTS.—Such section is further amended—

(1) in subsection (e) (as redesignated by subsection (a)(1)(B))—

(A) by striking out "(c), or (e)" in paragraph (1)(A)(i) and inserting in lieu thereof "(d), or (f)";

(B) by striking out "(c), or (e)" in paragraph (1)(B)(ii) and inserting in lieu thereof "(d), or (f)";

(C) by striking out "(c), or (e)" in paragraph (2)(A) and inserting in lieu thereof "(d), or (f)";

(D) by striking out "(c), or (e)" in paragraph (3)(A) and inserting in lieu thereof "(d), or (f)"; and

(E) by striking out "subsection (m)" in paragraph (7)(B)(ii), and inserting in lieu thereof "subsection (o)";

(2) in paragraph (1) of subsection (g) (as redesignated by subsection (a)(1)(B)), by striking out "subsection (m)" and inserting in lieu thereof "subsection (o)";

(3) in subsection (h) (as redesignated by subsection (a)(1)(B))—

(A) by striking out "subsection (d)" in paragraph (1) and inserting in lieu thereof "subsection (e)";

(B) by striking out "(b) or (c)" in paragraph (2) and inserting in lieu thereof "(b) or (d)"; and

(C) by striking out "(h) and (i)" in paragraph (3) and inserting in lieu thereof "(i) and (j)";

(4) in subsection (i) (as redesignated by subsection (a)(1)(B)), by striking out "(c), or (e)" and inserting in lieu thereof "(d), or (f)";

(5) in paragraph (1) of subsection (j) (as redesignated by subsection (a)(1)(B))—

(A) by striking out "subsection (n)" and inserting in lieu thereof "subsection (p)"; and

(B) by striking out "subsection (m)" and inserting in lieu thereof "subsection (o)"; and

(6) in subsection (l) (as redesignated by subsection (a)(1)(B))—

(A) by striking out "subsection (b)" in paragraph (1) and inserting in lieu thereof "subsections (b), (c), and (e)"; and

(B) in paragraph (2)—

(i) by striking out "subsection (b)" and inserting in lieu thereof "subsections (b), (c), and (e)"; and

(ii) by striking out "(c), or (e)" and inserting in lieu thereof "(d), or (f)".

(d) WAIVER OF CERTAIN RESTRICTIONS ON FORMER GOVERNMENT PERSONNEL.—(1) Subsection (f) of section 27 of the Office of Federal Procurement Policy Act, as redesignated and amended by subsection (a), is further amended by adding at the end the following:

"(3)(A)(i) The President may grant a waiver of a restriction imposed by paragraph (1) (relating to post-Government service employment) to an officer or employee described in subparagraph (B) if the President determines and certifies in writing that it is in the public interest to grant the waiver and that the services of the officer or employee are critically needed for the benefit of the Federal Government. Not more than 25 officers and employees currently employed by the Government at any one time may hold waivers under this subparagraph.

"(ii) A waiver granted under this subparagraph to any person shall apply only with respect to activities engaged in by that person after that person's Government employment is terminated and only to that person's employment at a Government-owned, contractor operated entity with which the person served as an officer or employee immediately before the person's Government employment began.

"(B) Waivers under subparagraph (A) may be granted only to civilian officers and employees of the executive branch, other than officers and employees in the Executive Office of the President.

Effective date. Federal Register, publication.

"(C) A certification under subparagraph (A) shall take effect upon its publication in the Federal Register and shall identify—

"(i) the officer or employee covered by the waiver by name and by position, and

"(ii) the reasons for granting the waiver.

A copy of the certification shall also be provided to the Director of the Office of Government Ethics.

"(D) The President may not delegate the authority provided by this paragraph.

"(E)(i) Each person granted a waiver under this paragraph shall prepare reports, in accordance with clause (ii), stating whether the person has engaged in activities otherwise prohibited by this section for each six-month period described in clause (ii), and if so, what those activities were. Reports.

"(ii) A report under clause (i) shall cover each six-month period beginning on the date of the termination of the person's Government employment (with respect to which the waiver under this paragraph was granted) and ending two years after that date. Such report shall be filed with the President and the Director of the Office of Government Ethics not later than 60 days after the end of the six-month period covered by the report. All reports filed with the Director under this subparagraph shall be made available for public inspection and copying. Public information.

"(iii) If a person fails to file any report in accordance with clauses (i) and (ii), the President shall revoke the waiver and notify the person of the revocation. The revocation shall take effect upon the person's receipt of the notification and shall remain in effect until the report is filed. President of U.S.

"(iv) Any person who is granted a waiver under this paragraph shall be ineligible for appointment in the civil service unless all reports required of such person by clauses (i) and (ii) have been filed.

"(D) As used in this paragraph, the term 'civil service' has the meaning given that term in section 2101 of title 5, United States Code.".

(2) Section 207 of title 18, United States Code, is amended by adding at the end the following:

"(k)(1)(A) The President may grant a waiver of a restriction imposed by this section to any officer or employee described in paragraph (2) if the President determines and certifies in writing that it is in the public interest to grant the waiver and that the services of the officer or employee are critically needed for the benefit of the Federal Government. Not more than 25 officers and employees currently employed by the Federal Government at any one time may have been granted waivers under this paragraph.

"(B) A waiver granted under this paragraph to any person shall apply only with respect to activities engaged in by that person after that person's Federal Government employment is terminated and only to that person's employment at a Government-owned, contractor operated entity with which the person served as an officer or employee immediately before the person's Federal Government employment began.

"(2) Waivers under paragraph (1) may be granted only to civilian officers and employees of the executive branch, other than officers and employees in the Executive Office of the President.

"(3) A certification under paragraph (1) shall take effect upon its publication in the Federal Register and shall identify— Effective date. Federal Register, publication.

"(A) the officer or employee covered by the waiver by name and by position, and

"(B) the reasons for granting the waiver.

A copy of the certification shall also be provided to the Director of the Office of Government Ethics.

"(4) The President may not delegate the authority provided by this subsection.

Reports.

"(5)(A) Each person granted a waiver under this subsection shall prepare reports, in accordance with subparagraph (B), stating whether the person has engaged in activities otherwise prohibited by this section for each six-month period described in subparagraph (B), and if so, what those activities were.

"(B) A report under subparagraph (A) shall cover each six-month period beginning on the date of the termination of the person's Federal Government employment (with respect to which the waiver under this subsection was granted) and ending two years after that date. Such report shall be filed with the President and the Director of the Office of Government Ethics not later than 60 days after the end of the six-month period covered by the report. All reports filed with the Director under this paragraph shall be made available for public inspection and copying.

Public information.

President of U.S.

"(C) If a person fails to file any report in accordance with subparagraphs (A) and (B), the President shall revoke the waiver and shall notify the person of the revocation. The revocation shall take effect upon the person's receipt of the notification and shall remain in effect until the report is filed.

"(D) Any person who is granted a waiver under this subsection shall be ineligible for appointment in the civil service unless all reports required of such person by subparagraphs (A) and (B) have been filed.

"(E) As used in this subsection, the term 'civil service' has the meaning given that term in section 2101 of title 5.".

41 USC 423 note.

(e) IMPLEMENTING REGULATIONS.—Not later than 90 days after the date of the enactment of this section, regulations implementing the amendments made by this section to the provisions of section 27 of the Office of Federal Procurement Policy Act (41 U.S.C. 423) shall be issued in accordance with sections 6 and 25 of such Act (41 U.S.C. 405, 421), after coordination with the Director of the Office of Government Ethics.

SEC. 815. DEFENSE MEMORANDA OF UNDERSTANDING AND RELATED AGREEMENTS

(a) CONSIDERATION OF MATTERS AFFECTING UNITED STATES INDUSTRY.—Section 2504 of title 10, United States Code, is amended to read as follows:

"§ 2504. Defense memoranda of understanding and related agreements

Research and development.

"(a) CONSIDERATIONS IN MAKING AND IMPLEMENTING MOUs AND RELATED AGREEMENTS.—In the negotiation, renegotiation, and implementation of any existing or proposed memorandum of understanding, or any existing or proposed agreement related to a memorandum of understanding, between the Secretary of Defense, acting on behalf of the United States, and one or more foreign countries (or any instrumentality of a foreign country) relating to research, development, or production of defense equipment, the Secretary of Defense shall—

"(1) consider the effects of such existing or proposed memorandum of understanding or related agreement on the defense industrial base of the United States; and

"(2) regularly solicit and consider comments and recommendations from the Secretary of Commerce with respect to the commercial implications of such memorandum of understanding or related agreement and the potential effects of such

memorandum of understanding or related agreement on the international competitive position of United States industry.

"(b) INTER-AGENCY REVIEW OF EFFECTS ON UNITED STATES INDUSTRY.—Whenever the Secretary of Commerce has reason to believe that an existing or proposed memorandum of understanding or related agreement has, or threatens to have, a significant adverse effect on the international competitive position of United States industry, the Secretary may request an inter-agency review of the memorandum of understanding or related agreement. If, as a result of the review, the Secretary determines that the commercial interests of the United States are not being served or would not be served by adhering to the terms of such existing memorandum or related agreement or agreeing to such proposed memorandum or related agreement, as the case may be, the Secretary shall recommend to the President the renegotiation of the existing memorandum or related agreement or any modification to the proposed memorandum of understanding or related agreement that he considers necessary to ensure an appropriate balance of interests.

"(c) LIMITATION ON ENTERING INTO MOUs AND RELATED AGREEMENTS.—A memorandum of understanding or related agreement referred to in subsection (a) may not be entered into or implemented if the President, taking into consideration the results of the inter-agency review, determines that such memorandum of understanding or related agreement has or is likely to have a significant adverse effect on United States industry that outweighs the benefits of entering into or implementing such memorandum or agreement.".

(b) CLERICAL AMENDMENT.—The table of sections at the beginning of chapter 148 of such title is amended by striking out the item relating to section 2504 and inserting in lieu thereof the following:

"2504. Defense memoranda of understanding and related agreements.".

SEC. 816. OFFSETS IN RECIPROCAL DEFENSE PROCUREMENT AGREEMENTS

Section 825(c) of the National Defense Authorization Act, Fiscal Year 1989 (Public Law 100-456; 102 Stat. 2021) is amended— 10 USC 2505 note.

(1) by transferring the text of paragraph (2) to the end of paragraph (1) and in that text striking out "the date of the enactment of this Act" and inserting in lieu thereof "September 29, 1988"; and

(2) by inserting the following after "(2)": "In the negotiation or renegotiation of any memorandum of understanding between the United States and one or more foreign countries relating to the reciprocal procurement of defense equipment and supplies or research and development, the President shall make every effort to achieve an agreement with the country or countries concerned that would limit the adverse effects that offset arrangements have on the defense industrial base of the United States.". President of U.S.

SEC. 817. SIMPLIFIED APPROVAL OF CONTRACTS IMPLEMENTING CERTAIN INTERNATIONAL AGREEMENTS

(a) EXCEPTION.—Paragraph (2) of section 2304(f) of title 10, United States Code, is amended—

(1) by striking out "or" at the end of subparagraph (C);

(2) by striking out the period at the end of subparagraph (D) and inserting in lieu thereof "; or"; and

(3) by adding at the end the following new subparagraph:

"(E) in the case of a procurement permitted by subsection (c)(4), but only if the head of the contracting activity prepares a document in connection with such procurement that describes the terms of an agreement or treaty, or the written directions, referred to in that subsection that have the effect of requiring the use of procedures other than competitive procedures and such document is approved by the competition advocate for the procuring activity.".

(b) PUBLIC INSPECTION.—Paragraph (4) of such section is amended by inserting after "any related information" the following: ", and any document prepared pursuant to paragraph (2)(E),".

SEC. 818. DELEGATION OF APPROVAL AUTHORITY FOR CERTAIN CONTRACT ACTIONS

(a) APPROVAL AUTHORITY.—Section 2304(f) of title 10, United States Code, is amended in paragraph (1)(B)—

(1) by striking out "or" after the semicolon in clause (ii);

(2) by redesignating clause (iii) as clause (iv) and striking out "$10,000,000" in such clause and inserting in lieu thereof "$50,000,000"; and

(3) by inserting after clause (ii) the following new clause (iii):

"(iii) in the case of a contract for an amount exceeding $10,000,000 (but equal to or less than $50,000,000), by the senior procurement executive of the agency designated pursuant to section 16(3) of the Office of Federal Procurement Policy Act (41 U.S.C. 414(3)) or the senior procurement executive's delegate designated pursuant to paragraph (6)(B), or in the case of the Under Secretary of Defense for Acquisition, acting in his capacity as the senior procurement executive for the Department of Defense, the Under Secretary's delegate designated pursuant to paragraph (6)(C); or".

(b) DELEGATION.—Such section is amended in paragraph (6)—

(1) by redesignating subparagraph (B) as subparagraph (C); and

(2) by inserting after subparagraph (A) the following new subparagraph (B):

"(B) The authority of the senior procurement executive under paragraph (1)(B)(iii) may be delegated only to an officer or employee within the senior procurement executive's organization who—

"(i) if a member of the armed forces, is a general or flag officer; or

"(ii) if a civilian, is serving in a position in grade GS-16 or above (or in a comparable or higher position under any other schedule for civilian officers or employees).".

(c) CONFORMING AMENDMENTS.—(1) Clause (iv) of section 2304(f)(1)(B) of such title (as redesignated) is amended by striking out "paragraph (6)(B)" and inserting in lieu thereof "paragraph (6)(C)".

(2) Subparagraph (C) of section 2304(f)(6) of such title (as redesignated) is amended by striking out "paragraph (1)(B)(iii)" and inserting in lieu thereof "paragraph (1)(B)(iv)".

SEC. 819. PROCUREMENT TECHNICAL ASSISTANCE COOPERATIVE AGREEMENT PROGRAM

(a) FUNDING.—Of the amounts authorized to be appropriated pursuant to section 301 for Defense Agencies for fiscal years 1990

and 1991 for operation and maintenance, $9,000,000 shall be available for each of such fiscal years only for the purpose of carrying out cooperative agreements under chapter 142 of title 10, United States Code.

(b) SET-ASIDE.—Of the amounts provided for in subsection (a), $600,000 shall be available for each of the fiscal years 1990 and 1991 for the purpose of carrying out programs sponsored by eligible entities named in subparagraph (D) of section 2411(1) of title 10, United States Code, that provide procurement technical assistance in distressed areas (as defined in subparagraph (B) of section 2411(2) of such title). If there is an insufficient number of satisfactory proposals for cooperative agreements in such distressed areas to allow for effective use of the funds authorized under this subsection in such areas, the funds shall be allocated among the Defense Contract Administration Services regions in accordance with section 2415 of such title.

(c) ASSISTANCE FURNISHED TO CERTAIN INDIAN ORGANIZATIONS.—(1) Subsection (a) of section 2414 of title 10, United States Code, is amended by striking out paragraphs (1) and (2) and inserting in lieu thereof the following:

"(1) in the case of a program operating on a Statewide basis, other than a program referred to in clause (3) or (4), $300,000;

"(2) in the case of a program operating on less than a Statewide basis, other than a program referred to in clause (3) or (4), $150,000;

"(3) in the case of a program operated wholly within one service area of the Bureau of Indian Affairs by an eligible entity referred to in section 2411(1)(D) of this title, $150,000; or

"(4) in the case of a program operated wholly within more than one service area of the Bureau of Indian Affairs by an eligible entity referred to in section 2411(1)(D) of this title, $300,000.".

(2) Subsection (b) of such section is amended by inserting "or is operated wholly within one or more service areas of the Bureau of Indian Affairs by an eligible entity referred to in section 2411(a)(1)(D) of this title" after "or on less than a Statewide basis".

PART C—OTHER ACQUISITION POLICY MATTERS

SEC. 821. REQUIREMENT FOR CERTIFICATE OF INDEPENDENT PRICE DETERMINATION IN CERTAIN DEPARTMENT OF DEFENSE CONTRACT SOLICITATIONS

Regulations. Territories, U.S.

The Secretary of Defense shall propose a revision to the Federal Acquisition Regulation to provide that the exception contained in part 3.103-1 of the Federal Acquisition Regulation for work performed by foreign suppliers outside the United States, its possessions, and Puerto Rico be repealed.

SEC. 822. UNIFORM RULES ON DISSEMINATION OF ACQUISITION INFORMATION

Regulations.

Not later than 120 days after the date of the enactment of this Act, the Secretary of Defense shall prescribe in the Department of Defense Supplement to the Federal Acquisition Regulation a single, uniform regulation for the Department of Defense regarding dissemination of, and access to, acquisition information.

SEC. 823. LIMITATION ON AUTHORITY TO WAIVE BUY AMERICAN ACT REQUIREMENT

41 USC 10b-2.

(a) DETERMINATION BY SECRETARY OF DEFENSE.—(1) If the Secretary of Defense, after consultation with the United States Trade Representative, determines that a foreign country which is party to an agreement described in paragraph (2) has violated the terms of that agreement by discriminating against certain types of products produced in the United States that are covered by the agreement, the Secretary of Defense shall rescind the Secretary's blanket waiver of the Buy American Act with respect to such types of products produced in that foreign country.

(2) An agreement referred to in paragraph (1) is any agreement, including any reciprocal defense procurement memorandum of understanding, between the United States and a foreign country pursuant to which the Secretary of Defense has prospectively waived the Buy American Act for certain products produced in that country.

(b) REPORT TO CONGRESS.—The Secretary of Defense shall submit to Congress a report on the amount of Department of Defense purchases from foreign entities in fiscal years 1990 and 1991. Such report shall separately indicate the dollar value of items for which the Buy American Act was waived pursuant to any agreement described in subsection (a)(2), the Trade Agreements Act of 1979 (19 U.S.C. 2501 et seq.), or any international agreement to which the United States is a party.

(c) BUY AMERICAN ACT DEFINED.—For purposes of this section, the term "Buy American Act" means title III of the Act entitled "An Act making appropriations for the Treasury and Post Office Departments for the fiscal year ending June 30, 1934, and for other purposes", approved March 3, 1933 (41 U.S.C. 10a et seq.).

10 USC 2325 note.

SEC. 824. ACQUISITION OF COMMERCIAL AND NONDEVELOPMENTAL ITEMS

(a) IN GENERAL.—The Secretary of Defense shall—

(1) prescribe regulations as provided in subsection (b); and

(2) conduct an analysis as provided in subsection (c).

(b) REGULATIONS.—(1) Not later than 180 days after the date of the enactment of this Act, the Secretary of Defense shall publish for public comment new regulations to carry out the requirements in this subsection and rescind any regulations that are inconsistent with the requirements of this subsection. The Secretary shall promulgate final regulations to carry out such requirements not later than 270 days after the date of the enactment of this Act.

(2) The Secretary of Defense shall develop a simplified uniform contract for the acquisition of commercial items by the Department of Defense and shall require that such simplified uniform contract be used for the acquisition of commercial items to the maximum extent practicable. The uniform contract shall include only—

(A) those contract clauses that are required to implement provisions of law applicable to such an acquisition; and

(B) those contract clauses that are appropriate, as determined by the Secretary of Defense, for a contract for such an acquisition.

In addition to the clauses described in subparagraphs (A) and (B), a contract for the acquisition of commercial items may include only such clauses as are essential for the protection of the Federal

Government's interest in the particular contract, as determined in writing by the contracting officer for such contract.

(3) The Secretary of Defense shall require that a prime contractor under a Department of Defense contract for the acquisition of commercial items be required to include in subcontracts under such contract only—

(A) those contract clauses that are required to implement provisions of law applicable to such subcontracts; and

(B) those contract clauses that are appropriate, as determined by the Secretary of Defense, for such a subcontract.

In addition to the clauses described in subparagraphs (A) and (B), a contractor under a Department of Defense contract for the acquisition of commercial items may be required to include in a subcontract under such contract only such clauses as are essential for the protection of the Federal Government's interest in the particular subcontract, as determined in writing by the contracting officer for such contract.

(4) The Secretary of Defense shall require the use, in appropriate circumstances, of a modified inspection clause with streamlined inspection procedures in each Department of Defense contract for the acquisition of commercial items awarded to a contractor that (A) has a proven record of high quality production, and (B) offers an appropriate warranty to protect the Federal Government's interest in acquiring a high quality product.

(5) The Secretary of Defense shall require the use, in appropriate circumstances, of standard commercial warranties in each Department of Defense contract for the acquisition of commercial items.

(6) The Secretary of Defense shall revise the regulations governing the applicability of the exemption contained in section 2306a(b)(1)(B) of title 10, United States Code, consistent with the public interest. In revising such regulations, the Secretary (A) shall address the standards for applying such exemption to contracts and subcontracts for items which are modifications to commercial items, components of commercial items, spare parts for commercial items, new commercial items, or commercial items which are no longer sold to the public, and (B) shall ensure that cost or pricing data are not required in connection with contracts and subcontracts qualifying for an exemption under the regulations as revised under this paragraph.

(c) ANALYSIS.—(1) The Secretary of Defense shall conduct an analysis of impediments to the acquisition of nondevelopmental items by the Department of Defense. In conducting the analysis, the Secretary shall consider, at a minimum, the following:

(A) Whether to expand the regulations governing the acquisition and distribution of commercial products to address the procurement of nondevelopmental items.

(B) Whether revisions to the regulations governing specifications, standards, and other purchase descriptions are necessary to implement the statutory requirement that product specifications be stated in terms of functions to be performed, performance required, or essential physical characteristics, and to minimize the use of specifications unique to the Department of Defense.

(C) Whether to establish a presumption that the Department of Defense should not request technical data on commercial items.

(D) Whether the Secretary of Defense should make greater use of the authority granted the Secretary in law to exempt

defense contracts for commercial items from the application of various requirements.

(2) Not later than 270 days after the date of the enactment of this Act, the Secretary shall develop and submit to the Committees on Armed Services of the Senate and House of Representatives a plan of action for addressing any impediments identified in the analysis required by paragraph (1). The plan shall include a specific schedule for the following:

(A) Rescission of any regulations that are identified as impediments to the acquisition of nondevelopmental items.

(B) Publication for public comment of new regulations to carry out the plan.

(C) Submission to Congress of proposals for such legislative changes as may be needed to carry out the plan.

(d) TRAINING.—(1) The Secretary of Defense shall establish a program for training contracting officers, program managers, and other appropriate acquisition personnel in the acquisition of nondevelopmental items.

(2) The training program shall provide, at a minimum, for the following:

(A) Training in the requirements of the regulations promulgated pursuant to this section, the requirements of section 2325 of title 10, United States Code, and regulations prescribed pursuant to that section.

(B) Training of contracting officers in the fundamental principles of price analysis and other alternative means of determining price reasonableness.

(C) Training of appropriate acquisition personnel in market research techniques and in the drafting of functional and performance specifications.

(e) DEMONSTRATION PROGRAM FOR ITEMS ISSUED TO MEMBERS.—(1) The Secretary of Defense shall carry out a demonstration program in accordance with this subsection with respect to the procurement of individual items of clothing issued to members of the Armed Forces. Under the demonstration program, the Secretary shall—

(A) identify those items of clothing that are the same as, or similar to, clothing items produced by commercial sources for sale to consumers other than the Armed Forces; and

(B) designate for acquisition in accordance with this subsection certain of such items (hereinafter in this subsection referred to as "demonstration items") as the Secretary considers appropriate for acquisition under the demonstration program.

(2) With respect to a portion (determined by the Secretary) of the contracts for demonstration items entered into by the Department of Defense, the Secretary shall—

(A) include in the solicitations for such items a specification reflecting design and functional requirements that are comparable to those used in the award of commercial contracts;

(B) require each offeror to submit a sample article of the item;

(C) provide in the evaluation criteria included in the solicitation that award of the contract will be made to the proposal which is most advantageous to the United States, considering only cost or price and other factors included in the solicitation;

(D) evaluate competitive proposals, either with or without discussions, and the sample article received in response to a solicitation for such items and award a contract in accordance with the evaluation criteria included in the solicitation; and

(E) require each contractor awarded a contract for such items to produce items identical in all major characteristics (including quality) to the sample article submitted with the contractor's bid or proposal.

(3) The demonstration program required under this subsection shall apply with respect to solicitations for demonstration items covered by the program issued after the end of the 180-day period beginning on the date of the enactment of this Act and before October 1, 1993.

SEC. 825. STUDY AND REPORT ON DEFENSE EXPORT FINANCING

President of U.S.

(a) STUDY.—The President shall conduct a study of export financing of defense articles. In the course of the study, the President shall—

(1) examine the effect of export financing on the ability of United States industry to compete in the international market for defense products;

(2) determine the extent to which other countries support commercial financing for defense exports through official government credit programs;

(3) determine the extent to which United States private capital is used to support defense exports and the obstacles that United States lending institutions face in providing additional support; and

(4) determine the feasibility and desirability of using existing or new Government export guarantee programs to provide greater private capital support for United States defense exports.

(b) REPORT.—Not later than 120 days after the date of enactment of this Act, the President shall submit to Congress a report on the findings of the study under subsection (a).

PART D—PROVISIONS RELATING TO SMALL AND SMALL DISADVANTAGED BUSINESSES

SEC. 831. PROVISIONS RELATING TO SMALL DISADVANTAGED BUSINESSES

(a) EXTENSION OF CONTRACT GOAL.—Section 1207 of the National Defense Authorization Act for Fiscal Year 1987 (10 U.S.C. 2301 note) is amended by striking out "and 1990" in subsections (a) and (h) and inserting in lieu thereof "1990, 1991, 1992, and 1993".

(b) PRICE DIFFERENTIAL.—Subsection (e) of such section is amended by adding at the end of paragraph (3) the following sentence: "The Secretary shall adjust the percentage specified in the preceding sentence for any industry category if available information clearly indicates that nondisadvantaged small business concerns in such industry category are generally being denied a reasonable opportunity to compete for contracts because of the use of that percentage in the application of this paragraph.".

(c) REPORT DEADLINE.—Subsection (g) of such section is amended—

(1) by striking out "Between May 1 and May 30" in paragraph (1) and inserting in lieu thereof "Not later than July 15"; and

(2) by striking out "Between October 1 and October 10" in paragraph (2) and inserting in lieu thereof "Not later than December 15".

10 USC 2301 note.

SEC. 832. CREDIT FOR INDIAN CONTRACTING IN MEETING CERTAIN MINORITY SUBCONTRACTING GOALS

(a) REGULATIONS.—Subject to subsections (b) and (c), in any case in which a subcontracting goal is specified in a Department of Defense contract in the implementation of section 1207 of the National Defense Authorization Act for Fiscal Year 1987 (10 U.S.C. 2301 note) and section 8(d) of the Small Business Act (15 U.S.C. 637(d)), credit toward meeting that subcontracting goal shall be given for—

(1) work performed in connection with that Department of Defense contract, and work performed in connection with any subcontract awarded under that Department of Defense contract, if such work is performed on any Indian lands and meets the requirements of paragraph (1) of subsection (b); or

(2) work performed in connection with that Department of Defense contract, and work performed in connection with any subcontract awarded under that Department of Defense contract, if the performance of such contract or subcontract is undertaken as a joint venture that meets the requirements of paragraph (2) of that subsection.

(b) ELIGIBLE WORK.—(1) Work performed on Indian lands meets the requirements of this paragraph if—

(A) not less than 40 percent of the workers directly engaged in the performance of the work are Indians; or

(B) the contractor or subcontractor has an agreement with the tribal government having jurisdiction over such Indian lands that provides goals for training and development of the Indian workforce and Indian management.

(2) A joint venture undertaking to perform a contract or subcontract meets the requirements of this paragraph if—

(A) an Indian tribe or tribally owned corporation owns at least 50 percent of the joint venture;

(B) the activities of the joint venture under the contract or subcontract provide employment opportunities for Indians either directly or through the purchase of products or services for the performance of such contract or subcontract; and

(C) the Indian tribe or tribally owned corporation manages the performance of such contract or subcontract.

(c) EXTENT OF CREDIT.—The amount of the credit given toward the attainment of any subcontracting goal under subsection (a) shall be—

(1) in the case of work performed as described in subsection (a)(1), the value of the work performed; and

(2) in the case of a contract or subcontract undertaken to be performed by a joint venture as described in subsection (a)(2), an amount equal to the amount of the contract or subcontract multiplied by the percentage of the tribe's or tribally owned corporation's ownership interest in the joint venture.

(d) REGULATIONS.—The Secretary of Defense shall prescribe regulations for the implementation of this section.

(e) DEFINITIONS.—In this section:

(1) The term "Indian lands" has the meaning given that term by section 4(4) of the Indian Gaming Regulatory Act (102 Stat. 2468; 25 U.S.C. 2703(4)).

(2) The term "Indian" has the meaning given that term by section 4(d) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450b(d)).

(3) The term "Indian tribe" has the meaning given that term by section 4(e) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450b(e)).

(4) The term "tribally owned corporation" means a corporation owned entirely by an Indian tribe.

SEC. 833. TEST PROGRAM FOR USE OF BOND WAIVER AUTHORITY UNDER SMALL BUSINESS ACT TO ASSIST CERTAIN SMALL DISADVANTAGED BUSINESS CONCERNS

15 USC 636 note.

The Secretary of Defense and the Small Business Administration shall establish a program for fiscal years 1990 and 1991 to test the use of the authority provided by section 7(j)(13)(D) of the Small Business Act (15 U.S.C. 636(j)(13)(D)). Under the test program, the Secretary of Defense shall make every reasonable effort during each such fiscal year to award not less than 30 contracts for construction projects (including repair and alteration of existing facilities) to participants in the Minority Small Business and Capital Ownership Development Program of the Small Business Administration who have been granted surety bond exemptions under the authority provided by section 7(j)(13)(D) of such Act.

SEC. 834. TEST PROGRAM FOR NEGOTIATION OF COMPREHENSIVE SMALL BUSINESS SUBCONTRACTING PLANS

15 USC 637 note.

(a) TEST PROGRAM.—(1) The Secretary of Defense shall establish a test program under which one contracting activity in each military department and Defense Agency is authorized to undertake one or more demonstration projects to determine whether the negotiation and administration of comprehensive small business subcontracting plans will result in an increase in opportunities provided for small business concerns under Department of Defense contracts.

(2) In developing the test program, the Secretary of Defense shall—

(A) consult with the Administrator of the Small Business Administration; and

(B) provide an opportunity for public comment on the test program.

(b) COMPREHENSIVE SMALL BUSINESS SUBCONTRACTING PLAN.—(1) In a demonstration project under the test program, the Secretary of a military department or head of a Defense Agency shall negotiate, monitor, and enforce compliance with a comprehensive subcontracting plan with a Department of Defense contractor described in paragraph (3).

(2) The comprehensive subcontracting plan—

(A) shall provide for small business concerns to participate as subcontractors in the contracts awarded by the Secretary or agency head to the contractor (or any division or operating element of the contractor) to which the subcontracting plan applies; and

(B) shall apply to the entire business organization of the contractor or to one or more of the contractor's divisions or operating elements, as specified in the subcontracting plan.

(3) A Department of Defense contractor referred to in paragraph (1) is, with respect to a comprehensive subcontracting plan, a business concern that, during the fiscal year ending on September 30, 1989—

(A) pursuant to at least five Department of Defense contracts, furnished supplies or services (including professional

services) to the Department of Defense, engaged in research and development for the Department, or performed construction for the Department; and

(B) was paid $25,000,000 or more for such contract activities.

(c) WAIVER OF CERTAIN SMALL BUSINESS ACT SUBCONTRACTING PLAN REQUIREMENTS.—A Department of Defense contractor is not required to negotiate or submit a subcontracting plan under paragraph (4) or (5) of section 8(d) of the Small Business Act (15 U.S.C. 637(d)) with respect to a Department of Defense contract if—

(1) the contractor has negotiated a comprehensive subcontracting plan under the test program that includes the matters specified in section 8(d)(6) of the Small Business Act (15 U.S.C. 637(d)(6));

(2) such matters have been determined acceptable by the Secretary of the military department or head of a Defense Agency negotiating such comprehensive subcontracting plan; and

(3) the comprehensive subcontracting plan applies to the contract.

(d) FAILURE TO MAKE A GOOD FAITH EFFORT TO COMPLY WITH A COMPANY-WIDE SUBCONTRACTING PLAN.—A contractor that has negotiated a comprehensive subcontracting plan under the test program shall be subject to section 8(d)(4)(F) of the Small Business Act (15 U.S.C. 637(d)(4)(F)) regarding the assessment of liquidated damages for failure to make a good faith effort to comply with its company-wide plan and the goals specified in that plan.

(e) TEST PROGRAM PERIOD.—The test program authorized by subsection (a) shall begin on October 1, 1990, unless Congress adopts a resolution disapproving the test program. The test program shall terminate on September 30, 1993.

(f) REPORT.—(1) Not later than March 1, 1994, the Secretary of Defense shall submit a report on the results of the test program to the Committees on Armed Services and on Small Business of the Senate and the House of Representatives.

(2) Before submitting such report to the committees referred to in paragraph (1), the Secretary shall transmit the proposed report to the Administrator of the Small Business Administration. The report submitted to the committees shall include any comments and recommendations relating to the report that are transmitted to the Secretary by the Administrator before the date specified in such paragraph.

(g) DEFINITIONS.—As used in this section:

(1) The term "small business concern" shall have the same meaning as is provided in section 8(d)(3)(C) of the Small Business Act (15 U.S.C. 637(d)(3)(C)), and includes a small business concern owned and controlled by socially and economically disadvantaged individuals.

(2) The term "small business concern owned and controlled by socially and economically disadvantaged individuals" shall have the same meaning as is provided in section 8(d)(3)(C) of the Small Business Act (15 U.S.C. 637(d)(3)(C)).

PART E—DEFENSE INDUSTRIAL AND TECHNOLOGY BASE

SEC. 841. CRITICAL TECHNOLOGIES PLANNING

(a) NATIONAL CRITICAL TECHNOLOGIES PANEL.—(1) The National Science and Technology Policy, Organization, and Priorities Act of 1976 (42 U.S.C. 6601 et seq.) is amended by adding at the end the following new title:

"TITLE VI—NATIONAL CRITICAL TECHNOLOGIES PANEL

"ESTABLISHMENT

"SEC. 601. The Director of the Office of Science and Technology Policy shall establish within that office a National Critical Technologies Panel (hereinafter in this title referred to as the 'panel'). The panel shall prepare the biennial national critical technologies report required by section 603. 42 USC 6681.

"MEMBERSHIP

"SEC. 602. (a) The panel shall consist of 13 members appointed from among persons who are experts in science and engineering as follows: 42 USC 6682.

"(1) The Director of the Office of Science and Technology Policy shall appoint nine members, of whom—

"(A) three shall be Federal Government officials; and

"(B) six shall be appointed from persons in private industry and higher education.

"(2) The Secretary of Defense shall appoint one member, who shall be an official of the Department of Defense.

"(3) The Secretary of Energy shall appoint one member, who shall be an official of the Department of Energy.

"(4) The Secretary of Commerce shall appoint one member, who shall be an official of the Department of Commerce.

"(5) The Administrator of the National Aeronautics and Space Administration shall appoint one member, who shall be an official of that agency.

"(b)(1) Members appointed under subsection (a)(1)(B) shall serve for a term of two years.

(2) Any vacancy in the membership of the panel shall be filled in the same manner as the original appointment.

"(c) The Director shall designate one of the members appointed under subsection (a)(1)(A) as chairman of the panel.

"BIENNIAL NATIONAL CRITICAL TECHNOLOGIES REPORT

"SEC. 603. (a) The panel shall submit to the President a biennial report on national critical technologies. Each such report shall identify those product technologies and process technologies that the panel considers to be national critical technologies. The number of the such technologies identified in any such report may not exceed 30. The reports shall be submitted not later than October 1 of even-numbered years. 42 USC 6683.

"(b) For purposes of subsection (a), a product or process technology may be considered to be a national critical technology if the panel determines it to be a technology that it is essential for the United States to develop to further the long-term national security and economic prosperity of the United States.

"(c) Each such report shall include, with respect to each technology identified in the report, the following information:

"(1) The reasons for the panel's selection of that technology.

"(2) The state of the development of that technology in the United States and in other countries.

"(3) An estimate of the current and anticipated level of research and development effort in the United States, including anticipated milestones for specific accomplishments, by—

"(A) the Federal Government;

"(B) State and local governments;

"(C) private industry; and

"(D) colleges and universities.

President of U.S.

"(d) Not later than 30 days after the date on which a report is submitted to the President under this section, the President shall transmit the report, together with any comments that the President considers appropriate, to Congress.

"ADMINISTRATION AND FUNDING OF PANEL

42 USC 6684.

"SEC. 604. The Director of the Office of Science and Technology Policy shall provide administrative support for the panel. Funds for necessary expenses of the panel shall be provided for fiscal years after fiscal year 1990 from funds appropriated for that Office.

"EXPIRATION

42 USC 6685.

"SEC. 605. The provisions of this title shall cease to be effective on December 31, 2000, and the panel shall terminate on that date.".

42 USC 6684 note.

(2) The Secretary of Defense shall reimburse the Director of the Office of Science and Technology Policy for the reasonable expenses, not to exceed $500,000, incurred by the National Critical Technologies Panel during fiscal year 1990.

(b) ANNUAL DEFENSE CRITICAL TECHNOLOGIES PLAN.—(1) Chapter 148 of title 10 United States Code, is amended by adding at the end the following new section:

"§ 2508. Annual defense critical technologies plan

"(a) ANNUAL PLAN.—(1) The Secretary of Defense shall submit to the Committees on Armed Services of the Senate and House of Representatives an annual plan for developing the technologies considered by the Secretary of Defense and the Secretary of Energy to be the technologies most critical to ensuring the long-term qualitative superiority of United States weapon systems. The number of such technologies identified in any plan may not exceed 20. Each such plan shall be developed in consultation with the Secretary of Energy.

"(2) In selecting the technologies to be included in the plan for any year, the Secretary of Defense and the Secretary of Energy shall consider both product technologies and process technologies, including the technologies identified in the most recent biennial report submitted to the President by the National Critical Technologies Panel under title VI of the National Science and Technology Policy, Organization, and Priorities Act of 1976.

"(3) Each such plan shall cover the 15 fiscal years following the year in which the plan is submitted.

Classified information. Public information.

"(4) Such plan shall be submitted not later than March 15 of each year and shall be submitted in both classified and unclassified form.

"(b) PRIORITIES AND FUNDING.—Each plan submitted under subsection (a) shall—

"(1) designate priorities for development of the technologies identified in the plan; and

"(2) specify the funding requirements of the Department of Defense, the Department of Energy, and other appropriate departments and agencies of the Federal Government for the development of the technologies identified in the plan for the five fiscal years following the year in which the plan is submitted.

"(c) CONTENT OF PLAN.—Each plan submitted under subsection (a) shall include, with respect to each technology identified in the plan, the following:

"(1) The reasons for the selection of that technology, including—

"(A) a discussion of the consideration given to the most recent biennial report submitted to the President under title VI of the National Science and Technology Policy, Organization, and Priorities Act of 1976; and

"(B) the relationship of the technology to the overall science and technology program of the Department of Defense and the long-term funding strategy associated with that program.

"(2) A designation of the lead organization within the Department of Defense or the Department of Energy responsible for the development of the technology.

"(3) A summary description of the lead organization's plan for the development of the technology, including the milestone goals.

"(4) The amounts contained in the budgets of the Department of Defense, the Department of Energy, and other departments and agencies for the support of the development of such technology for—

"(A) the five preceding fiscal years; and

"(B) the fiscal year beginning in the year in which the plan is submitted; and

"(C) each fiscal year thereafter for which the Secretary of Defense, with respect to the Department of Defense, and the Secretary of Energy, with respect to the Department of Energy, has prepared a budget.

"(5) A comparison of the positions of the United States and the Soviet Union in the development of that technology.

"(6) The potential contributions that the allies of the United States and other industrialized nations can make to meet the needs of the United States and its allies for that technology.

"(7) A comparison of the extent to which the United States has access to research conducted on such technology in allied nations and other industrialized nations with the extent to which such nations have access to research conducted in the United States on such technology and a discussion of the effects of any imbalance in such access on development of that technology.

"(8) With respect to the development of such technology—

"(A) a comparison of the relative positions of the United States and other industrialized countries that are prominent in the development of such technology;

"(B) the trends in the relevant industrial bases of such countries;

"(C) the competitiveness of the United States industrial base supporting research in, and the development and use of, such technology;

"(D) the extent to which the United States should depend on other countries for the development of such technology; and

"(E) the extent to which action should be taken by the Federal Government to maintain and improve—

"(i) research efforts in the United States; and

"(ii) the industrial base supporting such efforts.

"(9) The potential contributions that the private sector can be expected to make from its own resources in connection with the development of civilian applications for such technology.".

(2) The table of sections at the beginning of such chapter is amended by adding at the end the following new item:

"2508. Annual defense critical technologies plan.".

(c) AGREEMENTS FOR STUDIES.—(1) Section 2368 of title 10, United States Code, is amended to read as follows:

"§ 2368. Critical technologies research

"(a) AGREEMENTS.—The Secretary of Defense may enter into agreements with the National Academy of Sciences, the National Academy of Engineering, and the National Institute of Medicine for the conduct of studies in fields of research and development essential to the development of the technologies identified in the most recent biennial report submitted to the President by the National Critical Technologies Panel under section 603 of the National Science and Technology Policy, Organization, and Priorities Act of 1976.

"(b) CONSULTATION WITH DIRECTOR OF OSTP.—An agreement under subsection (a) may be entered into only after consultation with the Director of the Office of Science and Technology Policy.

"(c) FUNDING LIMITATION.—The Secretary may not obligate more than $500,000 for agreements under subsection (a) in any fiscal year.".

(2) The item relating to that section 2368 in the table of sections at the beginning of chapter 139 of such title is amended to read as follows:

"2368. Critical technologies research.".

SEC. 842. DEFENSE INDUSTRIAL INFORMATION AND CRITICAL INDUSTRIES PLANNING

(a) EXPANDED FUNCTIONS OF THE DEFENSE INDUSTRIAL BASE OFFICE.—Section 2503 of title 10, United States Code, is amended—

(1) by striking out "at a minimum—" in the matter preceding paragraph (1) and inserting in lieu thereof "at a minimum, do the following:";

(2) by amending the first word of each of paragraphs (1) through (4) so that the initial letter of such word is uppercase;

(3) by striking out the semicolon at the end of each of paragraphs (1) and (2) and inserting in lieu thereof a period;

(4) by striking out "; and" at the end of paragraph (3) and inserting in lieu thereof a period; and

(5) by adding at the end the following new paragraph:

"(5) Establish and implement a consolidated analysis program (A) to assess and monitor worldwide capabilities in technologies critical to the national security of the United States, and (B) to monitor defense-related manufacturing capabilities of the United States.".

(b) CRITICAL INDUSTRIES PLANNING.—Section 2503 of title 10, United States Code, as amended by subsection (a), is further amended by adding at the end the following new paragraph:

"(6) Identify the industries most critical for national security applications of the technologies identified in the most recent annual defense critical technologies plan submitted under section 2508 of this title.".

(c) REPORT ON DEFENSE INDUSTRIAL BASE.—(1) The Secretary of Defense, acting through the Under Secretary of Defense for Acquisition, shall submit to the Committees on Armed Services of the Senate and House of Representatives a report on the actions taken under section 2503 of title 10, United States Code, for the improvement of the defense industrial base of the United States.

(2) The report shall include Under Secretary's analysis of the condition of the defense industrial base of the United States, particularly with respect to the financial ability of United States businesses—

(A) to conduct research and development activities relating to critical defense technologies, including the critical technologies identified in the first annual defense critical technologies plan submitted pursuant to section 2508 of title 10, United States Code, as added by section 841(b) of this Act;

(B) to apply those technologies to the production of goods and the furnishing of services; and

(C) to engage in any other activities determined by the Secretary of Defense to be critical to the national security.

(3) In preparing the analysis required in paragraph (2), the Secretary, acting through the Under Secretary of Defense for Acquisition, shall consider—

(A) trends in the profitability, levels of capital investment, spending on research and development, and debt burden of businesses involved in research on, development of, and application of critical defense technologies;

(B) the consequences of mergers, acquisitions, and takeovers of such businesses;

(C) the results of current Department of Defense spending for critical defense technologies; and

(D) the likely future level of Department of Defense spending for such technologies during the four fiscal years following fiscal year 1990 and the likely results of that level of spending.

(4) The report under this subsection shall be submitted not later than March 15, 1990.

SEC. 843. SCIENTIFIC AND TECHNICAL EDUCATION

(a) FINDINGS.—Congress makes the following findings:

(1) The possession and maintenance of technologically superior systems in the Department of Defense is a critical part of the national defense strategy of the United States.

(2) Defense programs use a significant portion of the entire science and technology workforce of the United States.

(3) The science and technology workforce of the United States has been declining in recent years and that decline threatens

the supply of qualified engineers and scientists for the Department of Defense in the future.

(b) SENSE OF CONGRESS.—In light of the findings in subsection (a), it is the sense of Congress that the Secretary of Defense should take such actions as may be necessary and appropriate to promote and encourage, at precollege through post-doctoral levels, an increase in the number of citizens and nationals of the United States who pursue courses of study in science, engineering, and other technical disciplines.

(c) REPORT.—The Secretary of Defense shall submit to the Committees on Armed Services of the Senate and House of Representatives, by February 1, 1990, a report on current, expanded, and proposed new programs of the Department of Defense and, as appropriate, proposed interagency programs to preserve and perpetuate an effective scientific and engineering workforce for the United States for the future. The Secretary, in coordination with the Director of the Office of Science and Technology Policy, shall include in the report an evaluation of the following concepts:

(1) Summer internships at Department of Defense laboratories for precollege teachers of sciences, engineering, or other technical disciplines.

(2) An award program for exceptional precollege teachers in sciences, engineering, or other technical disciplines.

(3) A scholarship program for undergraduates in scientific or technical education who plan to teach those disciplines at the precollege level.

(4) Expanding the Barry Goldwater Scholarship and Excellence in Education Program or any other such program that the Secretary and the Director mutually agree would promote increases in scientific and engineering careers.

(d) NATIONAL DEFENSE SCIENCE AND ENGINEERING GRADUATE FELLOWSHIPS.—(1) Part III of subtitle A of title 10, United States Code, is amended by adding at the end the following new chapter:

"CHAPTER 111—NATIONAL DEFENSE SCIENCE AND ENGINEERING GRADUATE FELLOWSHIPS

"Sec.
"2191. Graduate fellowships.

"§ 2191. Graduate fellowships

Regulations.

"(a) The Secretary of Defense shall prescribe regulations providing for the award of fellowships to citizens and nationals of the United States who agree to pursue graduate degrees in science, engineering, or other fields of study designated by the Secretary to be of priority interest to the Department of Defense.

"(b) A fellowship awarded pursuant to regulations prescribed under subsection (a) shall be known as a 'National Defense Science and Engineering Graduate Fellowship'.

Minorities.
Women.
Disabled persons.

"(c) National Defense Science and Engineering Graduate Fellowships shall be awarded solely on the basis of academic ability. The Secretary shall take all appropriate actions to encourage applications for such fellowships of persons who are members of groups (including minority groups, women, and disabled persons) which historically have been underrepresented in science and technology fields. Recipients shall be selected on the basis of a nationwide competition. The award of a fellowship under this section may not

be predicated on the geographic region in which the recipient lives or the geographic region in which the recipient will pursue an advanced degree.

"(d) The regulations prescribed under this section shall include—

"(1) the criteria for award of fellowships;

"(2) the procedures for selecting recipients;

"(3) the basis for determining the amount of a fellowship; and

"(4) the maximum amount that may be awarded to an individual during an academic year.".

(2) The tables of chapters at the beginning of subtitle A, and at the beginning of part III of subtitle A, of such title are each amended by inserting after the item relating to chapter 110 the following new item:

"111. National Defense Science and Engineering Graduate Fellowships ..... 2191".

(e) FUNDING.—Of the amounts authorized to be appropriated pursuant to section 201, $10,500,000 of the amount appropriated for fiscal year 1990 and $11,000,000 of the amount authorized to be appropriated for fiscal year 1991 shall be available for National Defense Science and Engineering Graduate Fellowships provided for under chapter 111 of title 10, United States Code (as added by subsection (c)).

PART F—MISCELLANEOUS

SEC. 851. AUTHORITY TO CONTRACT WITH UNIVERSITY PRESSES FOR PRINTING, PUBLISHING, AND SALE OF HISTORY OF THE OFFICE OF THE SECRETARY OF DEFENSE

19 USC 2242 note.

The Government Printing Office, on behalf of the Secretary of Defense, shall contract for services for the printing, publishing, and sale of volumes III and IV of the publication entitled "History of the Office of the Secretary of Defense" using procurement procedures that exclude sources other than university presses.

SEC. 852. PROCUREMENT FROM COUNTRIES THAT DENY ADEQUATE AND EFFECTIVE PROTECTION OF INTELLECTUAL PROPERTY RIGHTS

(a) SENSE OF CONGRESS.—It is the sense of Congress that it should be a very important consideration in the procurement of property, services, or technology by the Department of Defense whether such procurement is from any person of any country which has been identified by the United States Trade Representative, on the advice of the Commissioner of Patents and Trademarks in the Department of Commerce and the Register of Copyrights, pursuant to section 182(a)(2) of the Trade Act of 1974 (19 U.S.C. 2242) as denying adequate and effective protection of intellectual property rights or fair and equitable market access to United States persons that rely upon intellectual property protection.

(b) REPORT.—(1) If the Secretary of Defense takes any action, upon the direction of the United States Trade Representative (in consultation with the Commissioner of Patents and Trademarks and the Register of Copyrights), with respect to the procurement of property, services, or technology by the Department of Defense on the basis of the consideration set forth in subsection (a), the Secretary shall submit promptly to the committees described in paragraph (2) a report describing the nature of such action and the reasons for such action.

(2) The committees to which the report required by paragraph (1) shall be submitted are the Committees on Armed Services, on Finance, and on the Judiciary of the Senate and the Committees on Armed Services, on Ways and Means, and on the Judiciary of the House of Representatives.

SEC. 853. ACQUISITION LAWS TECHNICAL AMENDMENTS

(a) REPEAL OF DUPLICATE PROVISION; RESTORATION OF INADVERTENTLY STRICKEN PROVISION.—(1) Section 2324 of title 10, United States Code, is amended—

(A) by striking out "(l)(1)" and all that follows through "In subsection (k):" and inserting in lieu thereof "(6) In this subsection:";

(B) by redesignating subsection (l) as subsection (m); and

(C) by inserting after subsection (k) the text of subsection (k) of such section as in effect on the day before the date of the enactment of the Major Fraud Act of 1988 (Public Law 100-700; 102 Stat. 4631 et seq.), with such text designated as subsection (l).

10 USC 2324 note.

(2) Section 833(c) of Public Law 100-456 (102 Stat. 2024) is amended by striking out "section 2324(k)" and inserting in lieu thereof "section 2324(m)".

Effective date. 10 USC 2324 note.

(3) The amendments made by this subsection shall take effect as of November 19, 1988.

(b) REFERENCES TO FAR.—(1) Section 2302 of title 10, United States Code, is amended by adding at the end the following new paragraph:

"(6) The term 'Federal Acquisition Regulation' means the Federal Acquisition Regulation issued pursuant to section 25(c)(1) of the Office of Federal Procurement Policy Act (41 U.S.C. 421(c)(1))."

(2) Section 2320(a) of such title is amended by striking out paragraph (4).

(3) Clause (i) of section 2324(k)(5)(B) of such title is amended by striking out "the single" and all that follows through the period and inserting in lieu thereof "the Federal Acquisition Regulation.".

(c) PROCUREMENT MANAGEMENT PERSONNEL CLARIFICATIONS.—(1) Paragraph (2) of section 1621 of title 10, United States Code, is amended to read as follows:

"(2) The term 'procurement command' means any of the following:

"(A) The Army Materiel Command, the Army Information Systems Command, and the Army Strategic Defense Command.

"(B) Any Navy weapons systems command, the Navy Strategic Systems Program Office, and the Marine Corps Research, Development and Acquisition Command.

"(C) The Air Force Systems Command and the Air Force Logistics Command.

"(D) Any successor organization to any command or office named in subparagraphs (A) through (C).".

(2) Section 1622(b)(2) of such title is amended—

(A) by striking out "acquisition, support, and maintenance of weapon systems," and inserting in lieu thereof "acquisition of weapon systems or related items of supply,"; and

(B) by inserting before the period the following: "or to a staff of a service acquisition executive, program executive officer, or program manager of a military department".

(3) Section 1623 of such title is amended—

(A) in subsection (a), by inserting "or on the staff of a service acquisition executive, program executive officer, or program manager of a military department" before the period at the end of the first sentence; and

(B) in subsection (b), by striking out "procurement command," and inserting in lieu thereof "procurement command or on the staff of a service acquisition executive, program executive officer, or program manager of a military department,".

(4) The amendments made by this subsection shall take effect as of July 1, 1989. Effective date. 10 USC 1621 note.

(d) CORRECTION OF REFERENCE.—Section 2304(b)(2) of title 10, United States Code, is amended—

(1) by striking out "An executive agency" and inserting in lieu thereof "The head of an agency";

(2) by inserting "concerns" before "other than"; and

(3) by inserting before the period the following: "and concerns other than small business concerns, historically Black colleges and universities, and minority institutions in furtherance of section 1207 of the National Defense Authorization Act for Fiscal Year 1987 (10 U.S.C. 2301 note)".

(e) CROSS-REFERENCE CORRECTION.—Section 2411(1)(D) of title 10, United States Code, is amended—

(1) by striking out "section 4(c)" and inserting in lieu thereof "section 4(l)"; and

(2) by striking out "450(c)" and inserting in lieu thereof "450b(l)".

(f) CORRECTION OF INCONSISTENCY.—Section 2305(b)(4)(D) of title 10, United States Code, is amended by inserting "cost or" after "considering only".

TITLE IX—MATTERS RELATING TO NATO MEMBER NATIONS AND OTHER ALLIES

PART A—CONVENTIONAL FORCE REDUCTIONS IN EUROPE

SEC. 901. FRAMEWORK FOR DETERMINING CONVENTIONAL FORCE REQUIREMENTS IN A CHANGING THREAT ENVIRONMENT

(a) EVALUATION OF EFFECT OF WARSAW PACT REDUCTIONS AND OF POSSIBLE CFE AGREEMENT.—The Secretary of Defense shall submit to the congressional defense committees a report providing the Secretary's evaluation of the effect upon requirements of the United States for conventional forces and for military spending that could be anticipated under the following assumptions: Reports.

(1) The full implementation of the unilateral force reductions in, and subsequent reorganization of, forces of the Soviet Union described by the President of the Soviet Union on December 7, 1988, and the unilateral force reductions subsequently announced by the other members of the Warsaw Pact. Union of Soviet Socialist Republics.

(2) Entry into force of a conventional arms control agreement establishing rough parity in conventional forces in Europe between forces of the North Atlantic Treaty Organization and the Warsaw Pact at equal levels (at approximately 85 to 90 percent of NATO's current inventory) of tanks, artillery, armored troop carriers, combat helicopters, and land-based combat aircraft.

(b) MATTERS TO BE INCLUDED IN EVALUATION.—In carrying out the evaluation required by subsection (a) of the unilateral force reductions referred to in paragraph (1) of that subsection and the potential effect of an agreement referred to in paragraph (2) of that subsection, the Secretary shall include in the evaluation (at a minimum) the following (stated for both the near-term and mid-term):

(1) An assessment of the threat to NATO under the assumptions specified in each of paragraphs (1) and (2) of subsection (a).

(2) The effect on the defense strategy of the United States for meeting its NATO commitments in the changing threat environment, including the effect on the ability of NATO to defend against an attack by the Warsaw Pact (A) on short warning, or (B) during a crisis in Europe.

(3) The effect on—

(A) the mix of active and reserve forces of the United States;

(B) the ratio of (i) conventional forces of the United States deployed in the European theater, to (ii) conventional forces of the United States deployed in the continental United States; and

(C) air and sea lift requirements.

(3) The effect on operational military concepts of the United States and NATO (such as Follow-on Forces Attack (FOFA), AirLand Battle, Maritime Strategy, and Rapid Reinforcement) that were initially developed to counter the large advantage of the Warsaw Pact in conventional land forces in the European theater.

(4) The effect on equipment requirements of the United States for meeting its commitments to NATO in the 1990s.

(c) TIME FOR SUBMISSION.—The report required by subsection (a) shall be submitted concurrently with the submission to Congress of the President's budget for fiscal year 1991 pursuant to section 1105 of title 31, United States Code. The report shall be submitted in both classified and unclassified form.

SEC. 902. IMPLICATIONS OF MUTUAL REDUCTIONS IN CONVENTIONAL FORCES IN EUROPE BY NATO AND WARSAW PACT MEMBER NATIONS

(a) COMMENDATION OF PRESIDENT'S CONVENTIONAL ARMS REDUCTION INITIATIVE.—Congress commends and supports the President's conventional arms control initiative announced in Brussels on May 29, 1989, in which the President proposed, and the North Atlantic Treaty Organization (NATO) agreed, that NATO expand its negotiating position at the negotiations on reductions in conventional forces in Europe (begun in Vienna on March 9, 1989, and known as the "CFE Talks") to include—

(1) substantial reductions by each side to equal ceilings of helicopters and combat aircraft; and

(2) a reduction to a common ceiling of United States military personnel stationed in Western Europe and Soviet military personnel stationed in Eastern Europe.

(b) PRESIDENTIAL REPORT.—(1) Not later than six months after the date of the enactment of this Act, the President shall submit to Congress an unclassified report, with classified annexes as necessary, on the foreign policy and military implications to NATO and to the Warsaw Pact of significant reductions of conventional forces

by NATO and Warsaw Pact countries to a ceiling which is the same for both sides.

(2) The report shall address possible force reduction scenarios for a second round of CFE negotiations and shall be based upon two different assumptions with regard to the level of reductions in personnel and equipment to be made. Under the first assumption, personnel and equipment would be reduced to a level 25 percent below current NATO levels. Under the second assumption, personnel and equipment would be reduced to a level 50 percent below current NATO levels.

(3) The report shall include the following:

(A) A comprehensive net assessment of the current balance between NATO forces and Warsaw Pact forces and of the overall trends in that balance, including an assessment of the trends in active and reserve forces and in total equipment holdings in stationed and indigenous forces.

(B) A description of the likely alternative force postures that could be adopted by member nations of both alliances (particularly by the United States and the Soviet Union) under each of the assumptions analyzed, together with a description of the possible effects of restructuring of both NATO and Warsaw Pact forces in Europe for defensive purposes.

(C) A statement of the costs (or savings) to the United States, over at least a seven-year period, estimated to be associated with each force posture described under subparagraph (B), together with an analysis of how those costs (or savings) were determined.

(D) An analysis of the implications for NATO strategy, security, and military policy under each of the reduction levels referred to in paragraph (2), including a net assessment of the resulting balance between NATO forces and Warsaw Pact forces.

(E) An assessment of the effects under each of the reduction levels referred to in paragraph (2) (including the alternative force postures under each assumption) upon the stability of the conventional balance of forces in Europe.

(F) An assessment of the ability of NATO to defend Europe under each of the assumed reduction levels in the event of an attack by the Warsaw Pact (i) on short warning, or (ii) during a crisis in Europe.

(G) An assessment of the effects under each of the reduction levels referred to in paragraph (2) on—

(i) the short-range nuclear force requirements of NATO;

(ii) the requirements of the United States for POMCUS and war-reserve stocks;

(iii) the requirements of NATO for airlift and sealift based in the United States and for reinforcing units from the United States; and

(iv) the ability of the United States to meet global military requirements.

SEC. 903. REPORT ON VERIFICATION MEASURES FOR POSSIBLE CONVENTIONAL ARMS CONTROL AGREEMENT

(a) REPORT.—The President shall submit to Congress a report on the types of measures that would be required to verify the proposal for reductions in conventional forces in Europe adopted by the President of U.S.

member nations of the North Atlantic Treaty Organization (NATO) on May 30, 1989.

(b) MATTERS TO BE INCLUDED IN REPORT.—The President shall include in the report under subsection (a) the following:

(1) A discussion of the types of information that it would be necessary for the parties to such an agreement to exchange for such verification.

(2) A discussion of the range of options under consideration by the executive branch for defining what constitutes a militarily significant violation of a conventional arms control agreement.

(3) A description of the national technical means, on-site inspections, and other cooperative measures that would be necessary to detect violations of such an agreement, including—

(A) an analysis of the measures that would be required to monitor (i) the withdrawal and demobilization of military personnel, and (ii) the withdrawal and (if required by the agreement) the destruction of military equipment provided for in any such agreement; and

(B) the President's judgment on those on-site inspections and confidence building measures under consideration that are the most acceptable, and the least acceptable, to the NATO alliance and the Warsaw Pact, including an assessment of the counterintelligence aspects of such measures for NATO.

(4) A discussion of the procedures the NATO alliance would follow in the event of a violation of such an agreement by a member of the Warsaw Treaty Organization.

(c) DATA BASE ANALYSIS.—(1) The report under subsection (a) shall also include a comprehensive analysis of—

(A) the uncertainties in the data bases to be used by United States intelligence with respect to the military forces of NATO member nations and Warsaw Pact member nations located in the proposed areas of reduction;

(B) the uncertainties in the estimates of the trends in such forces; and

(C) the differences in the data bases and counting rules used by the United States, the allies of the United States, and the Warsaw Pact member nations.

(2) The analysis under paragraph (1) shall address separately the uncertainties in the estimates of each of the following:

(A) Active forces.

(B) Reserve forces.

(C) Equipment subject to reductions and ceilings.

(D) Indigenous forces.

(E) Stationed forces.

(d) SUBMISSION OF REPORT.—The report required by subsection (a) shall be submitted not later than March 1, 1990. The report shall include such comments and recommendations as the President determines appropriate. The report shall be submitted in both classified and unclassified versions.

PART B—BURDEN SHARING

SEC. 911. REDUCTION IN AUTHORIZED END STRENGTH FOR THE NUMBER OF MILITARY PERSONNEL IN EUROPE

(a) REDUCTION REQUIRED.—Section 1002(c)(1) of the Department of Defense Authorization Act, 1985 (22 U.S.C. 1928 note), is amended by striking out "326,414" and inserting in lieu thereof "311,855".

(b) EFFECTIVE DATE.—The amendment made by subsection (a) shall take effect on September 30, 1991. 22 USC 1928 note.

SEC. 912. ACTIVE-DUTY FORCES IN EUROPE OF MEMBER NATIONS OF NATO 22 USC 1928 note.

(a) FINDINGS.—Congress makes the following findings:

(1) Member nations of the North Atlantic Treaty Organization (NATO), at the initiative of the President, have presented to the nations of the Warsaw Pact a comprehensive proposal concerning reductions in conventional forces in Europe for consideration in the negotiations on Conventional Armed Forces in Europe (CFE).

(2) An agreement based on that proposal would significantly enhance security and stability in Europe and the cause of peace worldwide.

(3) Irrespective of developments in the CFE negotiations, several member nations of NATO are considering making significant unilateral reductions over the next several years in the number of their active-duty forces in Europe.

(4) Such unilateral reductions in active-duty forces before an agreement on CFE enters into force would—

(A) undercut efforts by NATO to improve its conventional defense posture in Europe, increase reliance by NATO on the threat of the early use of nuclear weapons to deter aggression, and undermine the NATO arms control negotiating posture in the CFE negotiations; and

(B) exacerbate longstanding burdensharing tensions among member nations of NATO.

(5) Despite shifts in relative economic power from the United States to some of the major allies of the United States, the costs of mutual defense continue to be borne disproportionately by the United States.

(6) Adjustments in burdensharing are long overdue.

(b) DEFINITIONS.—For purposes of this section:

(1) The term "active-duty forces in Europe" means those active-duty military personnel assigned to permanent duty ashore in European member nations of NATO, except that such term does not include INF-related forces.

(2) The term "INF-related forces" means those active-duty military personnel assigned to permanent duty ashore in European member nations of NATO who are to be demobilized or withdrawn from Europe as a result of the elimination of the intermediate-range nuclear weapons of the United States pursuant to the Treaty between the United States of America and the Union of Soviet Socialist Republics on the Elimination of their Intermediate-range and Shorter-range Missiles, signed on December 8, 1987 (commonly referred to as the "INF Treaty").

(3) The term "U.S. end-strength level in Europe" means the actual number of active-duty forces in Europe of the Armed Forces of the United States at the end of a fiscal year.

(4) The term "allied forces end-strength level in Europe" means the actual number of active-duty forces in Europe of the armed forces of member nations of NATO (other than the United States) in Europe at the end of a fiscal year.

(c) BASELINE REPORT ON ACTIVE-DUTY FORCES IN EUROPE.—(1) Not later than 60 days after the date of the enactment of this Act, the Secretary of Defense shall submit to the congressional defense committees, the Committee on Foreign Relations of the Senate, and the Committee on Foreign Affairs of the House of Representatives a report on the number of the active-duty forces in Europe of the member nations of NATO. The report shall identify the following:

(1) The U.S. end-strength level in Europe for fiscal year 1989.

(2) The allied forces end-strength level in Europe for fiscal year 1989.

(3) The actual number of active-duty forces in Europe of the armed forces of each member nation of NATO (other than the United States) at the end of fiscal year 1989.

(4) The ratio (expressed in terms of a percentage) of—

(A) the U.S. end-strength level in Europe; to

(B) the allied forces end-strength level in Europe.

(d) U.S.-ALLIED FORCES RATIO.—(1) The ratio identified for fiscal year 1989 under subsection (c)(4) is hereinafter in this section referred to as the "baseline U.S.-allied forces ratio".

(2) The ratio identified in an annual report under subsection (e) is hereinafter in this section referred to as the "U.S.-allied forces ratio".

(e) ANNUAL REPORT ON MAINTAINING ACTIVE-DUTY FORCES IN EUROPE.—(1) During each of the fiscal years 1991, 1992, and 1993, the Secretary of Defense shall prepare a report identifying for the preceding fiscal year the following:

(A) The U.S. end-strength level in Europe for the fiscal year covered by the report.

(B) The allied forces end-strength level in Europe for such fiscal year.

(C) The ratio (expressed in terms of a percentage) of the U.S. end-strength level in Europe to the allied forces end-strength level in Europe for the fiscal year covered by the report.

(2) The Secretary shall include in each such report the following:

(A) A statement of whether there has been any change in the U.S.-allied forces ratio for such fiscal year compared with—

(i) the baseline U.S.-allied forces ratio; and

(ii) after fiscal year 1991, the U.S-allied forces ratio for the fiscal year immediately preceding the fiscal year covered by such report.

(B) In the case of a change in the U.S.-allied forces ratio for such fiscal year, a description of the amount of such change and any explanation of the cause for such change.

(C) A discussion of any action taken by the United States during such fiscal year to encourage member nations of NATO (other than the United States) to increase the number of their active-duty forces in Europe and the results of that action.

(3)(A) Except as provided in subparagraph (B), the report required by paragraph (1) shall be submitted to the congressional defense committees, the Committee on Foreign Relations of the Senate, and the Committee on Foreign Affairs of the House of Representatives not later than April 1 of each fiscal year referred to in such paragraph.

(B) The Secretary shall be considered to have complied with subparagraph (A) in a fiscal year if the Secretary includes the information required by paragraphs (1) and (2) in the report submitted in such year pursuant to section 1002(d)(2) of the Department of Defense Authorization Act, 1985 (22 U.S.C. 1928 note).

(f) LIMITATION ON OBLIGATION OF FUNDS.—(1) If the Secretary of Defense states in a report prepared under subsection (e) that the U.S.-allied forces ratio for the fiscal year covered by such report is greater than the baseline U.S.-allied forces ratio by more than one-tenth of one percentage point—

(A) the President shall undertake appropriate diplomatic initiatives to persuade the member nations of NATO (other than the United States) to increase the number of their active-duty forces in Europe so that the U.S.-allied forces ratio no longer exceeds the baseline U.S.-allied forces ratio; and President of U.S.

(B) funds appropriated to or for the use of the Department of Defense may not be obligated or expended for the next fiscal year to support active-duty forces in Europe of the Armed Forces of the United States at an end-strength level that would cause the U.S-allied forces ratio in such fiscal year to exceed the baseline U.S.-allied forces ratio by more than one-tenth of one percentage point.

(2) The President may waive the provisions of paragraph (1) if the President determines that such action is critical to the national security of the United States. The President shall immediately notify Congress of such a waiver and the reasons for such waiver. President of U.S.

(3) Paragraph (1) shall not apply in the event of a declaration of war or an armed attack on any member nation of NATO or in the event that a comprehensive arms reduction agreement enters into force as a result of the negotiations on Conventional Armed Forces in Europe (CFE).

(g) END-STRENGTH PERMANENT CEILING.—Nothing in this section shall be construed to permit the obligation or expenditure of funds to support an end-strength level of members of the Armed Forces of the United States assigned to permanent duty ashore in European member nations of NATO at any level in excess of the permanent ceiling specified in section 1002(c)(1) of the Department of Defense Authorization Act, 1985 (22 U.S.C. 1928 note).

SEC. 913. CONTRIBUTIONS BY JAPAN TO GLOBAL SECURITY

(a) FINDINGS.—Congress finds—

(1) that extraordinary political, economic, and social changes have occurred in Japan since World War II; and

(2) that, as a result of such changes, Japan is capable of assuming increased responsibility for its own security.

(b) SENSE OF CONGRESS.—It is the sense of Congress that, in view of the changes referred to in subsection (a), Japan should—

(1) assume increased responsibility for its own security;

(2) offset the direct costs incurred by the United States in deploying military forces for the defense of Japan, including costs (other than pay and allowances) related to the presence of United States military personnel in Japan; and

(3) make a contribution to the common defense that is more commensurate with its economic status by taking the following actions:

(A) Increasing expenditures for its Official Development Assistance program and its defense programs so that, by

1992, the level of spending by Japan on those programs (stated as a percentage of gross national product) will approximate the average of the levels of spending by the member nations of the North Atlantic Treaty Organization (NATO) on official development assistance and defense programs (stated as a percentage of their respective gross national products).

(B) Devoting any increase in its spending for such Official Development Assistance program primarily to the Republic of the Philippines and to countries in regions of importance to global stability outside of East Asia, particularly to countries in Latin America, the Caribbean area, and the Mediterranean area.

(C) Devoting any increase in spending for that program primarily to untied grants and increasing the portion of total expenditures made in that program for those multilateral financial institutions of which Japan is a member.

(D) Designating those nations that are to be recipients of increased development assistance referred to in subparagraphs (A) through (C) after consultation with Japan's security partners.

(E) Completing, after consultation with the United States, the 5-year defense program of Japan for fiscal years 1986 through 1990 and, at the earliest possible date after the completion of that program, fulfilling the pledge made by the Prime Minister of Japan in May 1981 to defend the territory, airspace, and sea lanes of Japan to a distance of 1,000 nautical miles.

(F) Acquiring "off-the-shelf" military equipment from the United States (including completely equipped, long-range early warning aircraft, additional AEGIS weapon systems, refueling aircraft, munitions, and spare parts) in developing the capabilities called for in Japan's current and subsequent 5-year defense programs.

President of U.S.

International agreements.

(c) NEGOTIATIONS AND CONSULTATIONS.—At the earliest practicable date after the enactment of this Act, the President shall—

(1) enter into negotiations with Japan for the purpose of achieving an agreement under which Japan agrees to make contributions sufficient in value to meet the direct cost of deploying United States forces for the defense of Japan; and

(2) issue an invitation to the Government of Japan and other governments of Pacific allies of the United States to engage in annual multilateral consultations on security concerns, consistent with the constitutions and national defense requirements of the respective countries.

(d) REPORTS.—(1) In order that Congress may determine whether further action is appropriate, not later than April 1, 1990, the President shall submit to the congressional committees described in paragraph (3) an initial report on the status and results of—

(A) the negotiations with Japan referred to in subsection (c)(1); and

(B) the invitation required under subsection (c)(2), including any consultations resulting from such invitation.

(2) Not later than one year after the date of the enactment of this Act, the President shall submit to such congressional committees a second report on the status and results of the matters referred to in paragraph (1).

(3) The congressional committees referred to in this subsection are the congressional defense committees, the Committee on Foreign Relations of the Senate, and the Committee on Foreign Affairs of the House of Representatives.

SEC. 914. REPORT ON COSTS ASSOCIATED WITH OVERSEAS DEPENDENTS

(a) REPORT REQUIRED.—The Secretary of Defense shall submit a report to the Committees on Armed Services of the Senate and House of Representatives on practicable options available to the Department of Defense to reduce costs associated with maintaining overseas—

(1) dependents of members of the Armed Forces; and

(2) dependents of civilian employees of the Department of Defense.

(b) ELEMENTS OF REPORT.—In preparing the report required by subsection (a), the Secretary shall specifically address, at a minimum, the following:

(1) Whether expansion of incentives for unaccompanied tours of duty overseas would be effective in increasing the number of such tours and whether such an expansion of incentives would be cost effective.

(2) Whether more frequent rotation of overseas personnel without dependents would result in overall savings as compared to current rotation practices.

(3) Whether an increase in the use of local contractors at overseas stations to provide services currently being provided by Department of Defense personnel would result in overall savings to the United States.

(4) The cost implications for United States families at overseas stations resulting from an increase in the use of local contractors.

(5) Whether costs associated with the support of overseas dependents would change from a reduction in personnel under a conventional forces in Europe (CFE) agreement.

(6) Whether the granting of fewer exceptions to the length of overseas duty tours would reduce permanent change of station costs.

(7) The extent to which overseas facilities could be consolidated and centralized to reduce administrative and overhead costs.

(8) The extent to which reductions in family support services at overseas stations could be made without materially affecting the standard of living of the personnel assigned to duty at such stations.

(9) Whether reductions in overseas family support costs would likely result in increased costs in programs in the United States.

(10) The extent to which dependents would be likely to accompany members of the Armed Forces and civilian employees of the Department of Defense to overseas stations in the absence of each of the various types of special assistance and benefits currently provided to overseas dependents.

(11) The effect that a reduction or termination of the various types of the special assistance and benefits for overseas dependents would have on combat readiness, morale, and retention.

(b) TIME FOR SUBMISSION.—The report required by subsection (a) shall be submitted not later than February 1, 1990.

SEC. 915. UNITED STATES-REPUBLIC OF KOREA SECURITY RELATIONSHIP AND OTHER SECURITY MATTERS IN EAST ASIA

(a) FINDINGS.—Congress makes the following findings:

(1) Since the end of the Korean conflict, the Republic of Korea has made tremendous progress in rebuilding its economic and military strength.

(2) Despite this progress, an indigenous military balance has not yet been achieved on the Korean peninsula, and the Democratic People's Republic of Korea continues to pose a serious threat to the security of the Republic of Korea.

(3) The alliance between the United States and the Republic of Korea has contributed greatly to the security of both countries.

(4) The Republic of Korea has dedicated a large share of its national resources to its security, as shown by the fact that defense expenditures comprise approximately one-third of the national budget of the Republic of Korea.

(5) The United States has contributed a large amount of national resources, including approximately 44,000 military personnel, to protecting the security interests that it shares with the Republic of Korea.

(6) The presence of United States military personnel in the Republic of Korea contributes to the preservation of peace on the Korean peninsula, serves as a military deterrent, and is a tangible manifestation of the commitment of the United States to the defense of the Republic of Korea.

(7) In accordance with its obligations under the 1954 Mutual Defense Treaty with the Republic of Korea, the United States remains committed to the security and territorial integrity of the Republic of Korea.

President of U.S. Reports.

(b) SENSE OF CONGRESS ON THE UNITED STATES-REPUBLIC OF KOREA SECURITY RELATIONSHIP.—(1) It is the sense of Congress that—

(A) the United States should review the missions, force structure, and locations of its military forces in the Republic of Korea and East Asia;

(B) the Republic of Korea should assume increased responsibility for its own security;

(C) the Republic of Korea should offset more of the direct costs incurred by the United States in deploying military forces for the defense of the Republic of Korea; and

(D) the United States and the Republic of Korea should consult on the feasibility and desirability of partial, gradual reductions of United States military forces in the Republic of Korea.

(2) In order that Congress may determine whether further action is appropriate, not later than April 1, 1990, the President shall submit to the congressional committees described in subsection (d) an initial report on the status and results of any consultations held by the United States and the Republic of Korea on the matter referred to in paragraph (1)(D).

(3) Not later than one year after the date of the enactment of this Act, the President shall submit to such congressional committees a second report on the status and results of the consultations referred to in paragraph (1)(D).

(c) REPORT ON MILITARY PRESENCE IN EAST ASIA.—(1) Not later than April 1, 1990, the President shall submit to the congressional

committees described in subsection (d) a report on the military presence of the United States in East Asia, including the Republic of Korea. The President shall include in such report a strategic plan relating to the continued United States military presence in East Asia.

(2) The report required by this subsection shall specifically include the following:

(A) An assessment of the implications of recent developments in the Soviet Union and the People's Republic of China for United States and allied security planning in East Asia. People's Republic of China.

(B) Identification of any changes in the missions, force structure, and locations of United States forces in East Asia that could strengthen the capabilities of such forces and lower the costs of maintaining such forces.

(C) A discussion of ways in which increased defense responsibilities and costs presently borne by the United States can be transferred to the allies of the United States in East Asia.

(D) Identification of the additional actions that the Republic of Korea can take to contribute more to its own security.

(E) A discussion of the feasibility of restructuring United States military forces stationed in Okinawa with the objective of improving civil-military relations and increasing United States training opportunities. Japan.

(F) A discussion of the status and prospects of negotiations between the United States and the Republic of the Philippines on the continued use of United States military installations in the Republic of the Philippines. Republic of the Philippines.

(G) An assessment of whether a requirement still exists for a regional security role for United States forces stationed in the Republic of Korea.

(3) The report required by this subsection shall also include a five-year plan with respect to the United States military presence in the Republic of Korea, including a discussion of the feasibility and desirability of the following:

(A) Partial, gradual reductions in the number of United States military personnel stationed in the Republic of Korea.

(B) Larger offsets by the Republic of Korea for the direct costs incurred by the United States in deploying military forces in defense of the Republic of Korea.

(C) The relocation of United States military personnel and facilities within the Republic of Korea that can be made to reduce friction between such personnel and the people of the Republic of Korea.

(D) Changes in the United Nations and United States-Republic of Korea bilateral command arrangements that would facilitate a transfer of certain military missions and command to the Republic of Korea.

(E) Confidence-building measures that could be promoted in northeast Asia to lessen tensions in the region.

(F) Additional actions the Republic of Korea could take to assume more responsibility for its own security.

(d) CONGRESSIONAL COMMITTEES TO RECEIVE REPORTS.—The congressional committees referred to in this section are the congressional defense committees, the Committee on Foreign Relations of the Senate, and the Committee on Foreign Affairs of the House of Representatives.

PART C—EXPENDITURES IN EUROPE

SEC. 921. LIMITATION ON EXPENDITURES FOR RELOCATION OF FUNCTIONS LOCATED AT TORREJON AIR BASE, MADRID, SPAIN

(a) LIMITATION.—During the period beginning on June 27, 1989, and ending on October 1, 1993, not more than $360,000,000 may be obligated or expended from funds available to the Department of Defense for the purpose of relocating functions of the Department of Defense located at Torrejon Air Base, Madrid, Spain, on June 15, 1989, to any other location outside the United States.

(b) COUNTING OF NATO INFRASTRUCTURE CONTRIBUTIONS.—For purposes of subsection (a), contributions for the North Atlantic Treaty Organization Infrastructure program pursuant to section 2806 of title 10, United States Code, that are used (directly or indirectly) for the purpose of relocations described in subsection (a) shall be included in determining the amount expended on such relocations.

(c) COUNTING OF REPAYMENTS FOR NATO INFRASTRUCTURE FAMILY HOUSING COMMITMENTS.—(1) All amounts which the United States is obligated to pay under a housing reimbursement agreement described in paragraph (2) shall be deemed to be amounts obligated for purposes of subsection (a), regardless of when the agreement is entered into or when payments pursuant to the agreement are to be made.

(2) A housing reimbursement agreement for purposes of paragraph (1) is an agreement calling for the United States to make a series of annual payments as repayment for advances for the cost of construction, through the NATO Infrastructure program, of military family housing in connection with the relocations described in subsection (a).

(d) EXCLUSION FOR PERSONNEL EXPENSES.—There shall be excluded from the determination of amounts expended on relocations described in subsection (a) amounts spent for expenses associated with permanent change of station moves and other personnel-related expenses.

SEC. 922. SENSE OF CONGRESS CONCERNING UNITED STATES MILITARY FACILITIES IN NATO MEMBER COUNTRIES

(a) NATO POLICY.—It is the sense of Congress that the North Atlantic Treaty Organization (NATO) should adopt as its policy the following views expressed by the North Atlantic Assembly in its 1987 report entitled "NATO in the 1990s":

(1) The member nations of NATO should examine further measures that could be taken to relieve the United States from the burdens of its military presence in Europe.

(2) Such nations should consider the provision of base facilities for allied forces and equipment as a part of their national contributions to Western security.

(3) Such nations should not expect compensation for providing facilities that the NATO alliance decides are essential to implement NATO security strategy.

(4) All wealthier member nations of NATO should assist Portugal, Greece, and Turkey to ensure that NATO remains politically, economically, and militarily strong in its southern region as well as in its central and northern regions.

(b) UNITED STATES PAYMENT FOR USE OF BASE FACILITIES IN NATO COUNTRIES.—It is further the sense of Congress that the United

States should not provide economic or security assistance to any NATO member nation as compensation or rent for the use of base facilities in that nation.

PART D—COOPERATIVE AGREEMENTS

SEC. 931. CODIFICATION OF CERTAIN ALLIED COOPERATIVE AGREEMENTS STATUTES

(a) STATUTORY REORGANIZATION.—Chapter 138 of title 10, United States Code, is amended—

(1) by striking out the chapter heading and inserting in lieu thereof the following:

"CHAPTER 138—COOPERATIVE AGREEMENTS WITH NATO ALLIES AND OTHER COUNTRIES

"Subchapter
"I. Acquisition and Cross-Servicing Agreements 2341
"II. Other Cooperative Agreements 2350a

"SUBCHAPTER I—ACQUISITION AND CROSS-SERVICING AGREEMENTS";

and

(2) by adding at the end the following:

"SUBCHAPTER II—OTHER COOPERATIVE AGREEMENTS

"Sec.
"2350a. Cooperative research and development projects: allied countries.
"2350b. Cooperative projects under Arms Export Control Act: acquisition of defense equipment.
"2350c. Cooperative military airlift agreements: allied countries.
"2350d. Cooperative logistic support agreements: NATO countries.
"2350e. NATO Airborne Warning and Control System (AWACS) program: authority of Secretary of Defense.
"2350f. Procurement of communications support and related supplies and services.

"§ 2350a. Cooperative research and development projects: allied countries

"(a) AUTHORITY TO ENGAGE IN COOPERATIVE R&D PROJECTS.—The Secretary of Defense may enter into a memorandum of understanding (or other formal agreement) with one or more major allies of the United States for the purpose of conducting cooperative research and development projects on defense equipment and munitions.

"(b) REQUIREMENT THAT PROJECTS IMPROVE CONVENTIONAL DEFENSE CAPABILITIES.—(1) The Secretary of Defense may not enter into a memorandum of understanding (or other formal agreement) to conduct a cooperative research and development project under this section unless the Secretary determines that the proposed project will improve, through the application of emerging technology, the conventional defense capabilities of the North Atlantic Treaty Organization (NATO) or the common conventional defense capabilities of the United States and its major non-NATO allies.

"(2) The authority of the Secretary to make a determination under paragraph (1) may only be delegated to the Deputy Secretary of Defense or the Under Secretary of Defense for Acquisition.

"(c) COST SHARING.—Each cooperative research and development project entered into under this section shall require sharing of the costs of the project between the participants on an equitable basis.

"(d) RESTRICTIONS ON PROCUREMENT OF EQUIPMENT AND SERVICES.—(1) In order to assure substantial participation on the part of the major allies of the United States in cooperative research and development projects, funds made available for such projects may not be used to procure equipment or services from any foreign government, foreign research organization, or other foreign entity.

"(2) A major ally of the United States may not use any military or economic assistance grant, loan, or other funds provided by the United States for the purpose of making that ally's contribution to a cooperative research and development program entered into with the United States under this section.

"(e) COOPERATIVE OPPORTUNITIES DOCUMENT.—(1)(A) In order to ensure that opportunities to conduct cooperative research and development projects are considered at an early point during the formal development review process of the Department of Defense in connection with any planned project of the Department, the Under Secretary of Defense for Acquisition shall prepare an arms cooperation opportunities document with respect to that project for review by the Defense Acquisition Board at formal meetings of the Board.

"(B) The Under Secretary shall also prepare an arms cooperation opportunities document for review of each new project for which a document known as a Mission Need Statement is prepared.

"(2) An arms cooperation opportunities document referred to in paragraph (1) shall include the following:

"(A) A statement indicating whether or not a project similar to the one under consideration by the Department of Defense is in development or production by one or more of the major allies of the United States.

"(B) If a project similar to the one under consideration by the Department of Defense is in development or production by one or more major allies of the United States, an assessment by the Under Secretary of Defense for Acquisition as to whether that project could satisfy, or could be modified in scope so as to satisfy, the military requirements of the project of the United States under consideration by the Department of Defense.

"(C) An assessment of the advantages and disadvantages with regard to program timing, developmental and life cycle costs, technology sharing, and Rationalization, Standardization, and Interoperability (RSI) of seeking to structure a cooperative development program with one or more major allies of the United States.

"(D) The recommendation of the Under Secretary as to whether the Department of Defense should explore the feasibility and desirability of a cooperative development program with one or more major allies of the United States.

"(f) REPORTS TO CONGRESS.—(1) Not later than March 1 of each year, the Under Secretary of Defense for Acquisition shall submit to the Speaker of the House of Representatives and the Committees on Armed Services and Appropriations of the Senate a report on cooperative research and development projects under this section. Each such report shall include—

"(A) a description of the status, funding, and schedule of existing projects carried out under this section for which memo-

randa of understanding (or other formal agreements) have been entered into; and

"(B) a description of the purpose, funding, and schedule of any new projects proposed to be carried out under this section (including those projects for which memoranda of understanding (or other formal agreements) have not yet been entered into) for which funds have been included in the budget submitted to Congress pursuant to section 1105 of title 31 for the fiscal year following the fiscal year in which the report is submitted.

"(2) The Secretary of Defense and the Secretary of State, whenever they consider such action to be warranted, shall jointly submit to the Committees on Armed Services and Foreign Relations of the Senate and to the Committees on Armed Services and Foreign Affairs of the House of Representatives a report—

"(A) enumerating those countries to be added to or deleted from the existing designation of countries designated as major non-NATO allies for purposes of this section; and

"(B) specifying the criteria used in determining the eligibility of a country to be designated as a major non-NATO ally for purposes of this section.

"(g) SIDE-BY-SIDE TESTING.—(1) It is the sense of Congress—

"(A) that the Secretary of Defense should test conventional defense equipment, munitions, and technologies manufactured and developed by major allies of the United States to determine the ability of such equipment, munitions, and technologies to satisfy United States military requirements or to correct operational deficiencies; and

"(B) that while the testing of nondevelopmental items and items in the late state of the development process are preferred, the testing of equipment, munitions, and technologies may be conducted to determine procurement alternatives.

"(2) The Secretary of Defense may acquire equipment, munitions, and technologies of the type described in paragraph (1) for the purpose of conducting the testing described in that paragraph.

"(3) The Deputy Director, Defense Research and Engineering (Test and Evaluation) shall notify the Speaker of the House of Representatives and the Committees on Armed Services and on Appropriations of the Senate of the Deputy Director's intent to obligate funds made available to carry out this subsection not less than 30 days before such funds are obligated.

"(4) The Secretary of Defense shall include in the annual report to Congress required by section 2457(d) of this title information on—

"(A) the equipment, munitions, and technologies manufactured and developed by major allies of the United States that were evaluated under this subsection during the previous fiscal year;

"(B) the obligation of any funds under this subsection during the previous fiscal year; and

"(C) the equipment, munitions, and technologies that were tested under this subsection and procured during the previous fiscal year.

"(h) SECRETARY TO ENCOURAGE SIMILAR PROGRAMS.—The Secretary of Defense shall encourage major allies of the United States to establish programs similar to the one provided for in this section.

"(i) DEFINITIONS.—In this section:

"(1) The term 'cooperative research and development project' means a project involving joint participation by the United

States and one or more major allies of the United States under a memorandum of understanding (or other formal agreement) to carry out a joint research and development program—

"(A) to develop new conventional defense equipment and munitions; or

"(B) to modify existing military equipment to meet United States military requirements.

"(2) The term 'major ally of the United States' means—

"(A) a member nation of the North Atlantic Treaty Organization (other than the United States); or

"(B) a major non-NATO ally.

"(3) The term 'major non-NATO ally' means a country (other than a member nation of the North Atlantic Treaty Organization) that is designated as a major non-NATO ally for purposes of this section by the Secretary of Defense with the concurrence of the Secretary of State.".

(b) TRANSFER OF EXISTING TITLE 10 SECTIONS.—(1) Section 2407 of title 10, United States Code (relating to acquisition of defense equipment under cooperative agreements), is transferred to the end of chapter 138 of such title (as amended by subsection (a)) and redesignated as section 2350b.

(2) Section 2213 of such title (relating to cooperative military airlift agreements), is transferred to the end of chapter 138 of such title (as amended by paragraph (1)), redesignated as section 2350c, and amended in subsection (d) by striking out "chapter 138 of this title" and inserting in lieu thereof "subchapter I".

(c) CODIFICATION OF EXISTING NON-TITLE 10 SECTION.—Chapter 138 of such title (as amended by subsection (b)) is further amended by adding at the end the following new section:

"§ 2350d. Cooperative logistic support agreements: NATO countries

"(a) GENERAL AUTHORITY.—(1) The Secretary of Defense may enter into bilateral or multilateral agreements known as Weapon System Partnership Agreements with one or more governments of other member countries of the North Atlantic Treaty Organization (NATO) participating in the operation of the NATO Maintenance and Supply Organization. Any such agreement shall be for the purpose of providing cooperative logistics support for the armed forces of the countries which are parties to the agreement. Any such agreement—

"(A) shall be entered into pursuant to the terms of the charter of the NATO Maintenance and Supply Organization; and

"(B) shall provide for the common logistic support of a specific weapon system common to the participating countries.

"(2) Such an agreement may provide for—

"(A) the transfer of logistics support, supplies, and services by the United States to the NATO Maintenance and Supply Organization; and

"(B) the acquisition of logistics support, supplies, and services by the United States from that Organization.

"(b) AUTHORITY OF SECRETARY.—Under the terms of a Weapon System Partnership Agreement, the Secretary of Defense—

"(1) may agree that the NATO Maintenance and Supply Organization may enter into contracts for supply and acquisition of logistics support in Europe for requirements of the United States, to the extent the Secretary determines that the

procedures of such Organization governing such supply and acquisition are appropriate; and

"(2) may share the costs of set-up charges of facilities for use by the NATO Maintenance and Supply Organization to provide cooperative logistics support and in the costs of establishing a revolving fund for initial acquisition and replenishment of supply stocks to be used by the NATO Maintenance and Supply Organization to provide cooperative logistics support.

"(c) SHARING OF ADMINISTRATIVE EXPENSES.—Each Weapon System Partnership Agreement shall provide for joint management by the participating countries and for the equitable sharing of the administrative costs incident to the agreement.

"(d) APPLICATION OF CHAPTER 137.—Except as otherwise provided in this section, the provisions of chapter 137 of this title apply to a contract entered into by the Secretary of Defense for the acquisition of logistics support under a Weapon System Partnership Agreement.

"(e) APPLICATION OF ARMS EXPORT CONTROL ACT.—Any transfer of defense articles or defense services to a member country of the North Atlantic Treaty Organization or to the NATO Maintenance and Supply Organization for the purposes of a Weapon System Partnership Agreement shall be carried out in accordance with the Arms Export Control Act (22 U.S.C. 2751 et seq.).

"(f) SUPPLEMENTAL AUTHORITY.—The authority of the Secretary of Defense under this section is in addition to the authority of the Secretary under subchapter I and any other provision of law.".

(d) CONFORMING REPEALS.—The following provisions of law are repealed:

(1) Section 1103 of the Department of Defense Authorization Act, 1986 (Public Law 99-145; 99 Stat. 713). 10 USC 2407 note.

(2) Section 1102 and section 1105 of the National Defense Authorization Act for Fiscal Year 1987 (Public Law 99-661, 800 Stat. 3961, 3965). 10 USC 2407 note; 22 USC 2767a.

(e) CONFORMING AND CLERICAL AMENDMENTS.—(1) Sections 2342 through 2350 of title 10, United States Code, are amended by striking out "this chapter" each place it appears and inserting in lieu thereof "this subchapter".

(2) The items relating to chapter 138 in the table of chapters at the beginning of subtitle A, and at the beginning of part IV of subtitle A, of such title are amended to read as follows:

"138. Cooperative Agreements with NATO Allies and Other Countries..... 2341".

(3) The heading of section 2350b of such title (as redesignated by subsection (b)(1)) is amended to read as follows:

"§ 2350b. Cooperative projects under Arms Export Control Act: acquisition of defense equipment".

(4) The heading of section 2350c of such title (as redesignated by subsection (b)(2)) is amended to read as follows:

"§ 2350c. Cooperative military airlift agreements: allied countries".

SEC. 932. EXTENSION AND CODIFICATION OF AUTHORITY PROVIDED THE SECRETARY OF DEFENSE IN CONNECTION WITH THE NATO AIRBORNE WARNING AND CONTROL SYSTEM (AWACS) PROGRAM

(a) EXTENSION AND CODIFICATION.—(1) Chapter 138 of title 10, United States Code (as amended by section 931), is further amended by adding at the end the following new section:

"§ 2350e. NATO Airborne Warning and Control System (AWACS) program: authority of Secretary of Defense

"(a) AUTHORITY UNDER AWACS PROGRAM.—The Secretary of Defense, in carrying out an AWACS memorandum of understanding, may do the following:

"(1) Waive reimbursement for the cost of the following functions performed by personnel other than personnel employed in the United States Air Force Airborne Warning and Control System (AWACS) program office:

"(A) Auditing.

"(B) Quality assurance.

"(C) Codification.

"(D) Inspection.

"(E) Contract administration.

"(F) Acceptance testing.

"(G) Certification services.

"(H) Planning, programming, and management services.

"(2) Waive any surcharge for administrative services otherwise chargeable.

"(3) In connection with that Program, assume contingent liability for—

"(A) program losses resulting from the gross negligence of any contracting officer of the United States;

"(B) identifiable taxes, customs duties, and other charges levied within the United States on the program; and

"(C) the United States share of the unfunded termination liability.

"(b) CONTRACT AUTHORITY LIMITATION.—Authority under this section to enter into contracts shall be effective for any fiscal year only to such extent or in such amounts as are provided in appropriation Acts.

"(c) DEFINITION.—In this section, the term 'AWACS memorandum of understanding' means—

"(1) the Multilateral Memorandum of Understanding Between the North Atlantic Treaty Organization (NATO) Ministers of Defence on the NATO E-3A Cooperative Programme, signed by the Secretary of Defense on December 6, 1978;

"(2) the Memorandum of Understanding for Operations and Support of the NATO Airborne Early Warning and Control Force, signed by the United States Ambassador to NATO on September 26, 1984; and

"(3) any other follow-on support agreement for the NATO E-3A Cooperative Programme.

"(d) EXPIRATION.—The authority provided by this section expires on September 30, 1991.".

(b) CONFORMING REPEAL.—Section 103 of the Department of Defense Authorization Act, 1982 (Public Law 97-86), is repealed. 10 USC 2407 note.

SEC. 933. REVISION AND EXTENSION OF AUTHORITY FOR PROCUREMENT OF COMMUNICATIONS SUPPORT AND RELATED SUPPLIES AND SERVICES FROM OTHER NATIONS

(a) RECODIFICATION OF SECTION.—Section 2401a of title 10, United States Code, is transferred to the end of subchapter II of chapter 138 of such title, as added by section 931 and amended by section 932, and is redesignated as section 2350f.

(b) AUTHORITY TO ENTER INTO BILATERAL AND MULTILATERAL ARRANGEMENTS.—Subsection (a) of such section is amended—

(1) by striking out "an arrangement with the Minister of Defense or other appropriate official of any allied country or with the North Atlantic Treaty Organization (NATO)" and inserting in lieu thereof "a bilateral arrangement with any allied country or allied international organization or may enter into a multilateral arrangement with allied countries and allied international organizations";

(2) by striking out "such country or NATO" and inserting in lieu thereof "the allied country or countries or allied international organization or allied international organizations, as the case may be,"; and

(3) by adding at the end the following new sentence: "The term of an arrangement entered into under this subsection may not exceed five years.".

(c) LIQUIDATION OF CREDITS AND LIABILITIES.—Subsection (b) of such section is amended—

(1) by inserting "(1)" after "(b)";

(2) by designating the second sentence as paragraph (3);

(3) by inserting after the first sentence the following new sentence: "Liquidations may be made at such times as the parties in an arrangement may agree upon, but in no case may final liquidation in the case of an arrangement be made later than 30 days after the end of the term for which the arrangement was entered into."; and

(4) by inserting after paragraph (1), as designated by clause (1) of this subsection, the following new paragraph:

"(2) Parties to an arrangement entered into under this section shall annually reconcile accrued credits and liabilities accruing under such agreement. Any liability of the United States resulting from a reconciliation shall be charged against the applicable appropriation available to the Department of Defense (at the time of the reconciliation) for obligation for communications support and related supplies and services.".

(d) DEFINITIONS.—Subsection (d) of such section is amended—

(1) by striking out "In this section, the term 'allied country' means—" and inserting in lieu thereof "In this section:

"(1) The term 'allied country' means—";

(2) by redesignating clauses (1) and (2) as clauses (A) and (B), respectively;

(3) by striking out "; or" at the end of clause (A), as redesignated by clause (2) of this subsection, and inserting in lieu thereof a semicolon;

(4) by striking out the period at the end of clause (B), as redesignated by clause (2) of this subsection, and inserting in lieu thereof "; or"; and

(5) by adding at the end the following:

"(C) any other country designated as an allied country for purposes of this section by the Secretary of Defense with the concurrence of the Secretary of State.

"(2) The term 'allied international organization' means the North Atlantic Treaty Organization (NATO) or any other international organization designated as an allied international organization for the purposes of this section by the Secretary of Defense with the concurrence of the Secretary of State.".

(e) CLERICAL AMENDMENT.—The table of sections at the beginning of chapter 141 of such title is amended by striking out the item relating to section 2401a.

SEC. 934. TWO-YEAR EXTENSION OF AUTHORITY TO PROVIDE EXCESS DEFENSE ARTICLES FOR THE MODERNIZATION OF DEFENSE CAPABILITIES OF COUNTRIES ON NATO SOUTHERN AND SOUTHEASTERN FLANKS

Section 516(a) of the Foreign Assistance Act of 1961 (22 U.S.C. 2321j(a)) is amended—

(1) by striking out "during the fiscal years 1987, 1988, and 1989" in the first sentence and inserting in lieu thereof "during the fiscal years 1987 through 1991"; and

(2) by adding at the end the following new sentence: "Transfers to recipient countries under this subsection shall be consistent with the policy framework for the Eastern Mediterranean region established in section 620C of this Act.".

22 USC 2347c note.

SEC. 935. AUTHORITY FOR EXCHANGE TRAINING THROUGH SPECIFIED PROFESSIONAL MILITARY EDUCATION INSTITUTION OUTSIDE THE UNITED STATES

Federal Republic of Germany.

(a) AUTHORITY.—The United States Army Russian Institute in Garmisch-Partenkirchen, Federal Republic of Germany, shall be treated for purposes of section 544 of the Foreign Assistance Act of 1961 (22 U.S.C. 2347c) as if it were located in the United States.

(b) EXPIRATION OF AUTHORITY.—Subsection (a) shall cease to be in effect upon the enactment in foreign assistance authorizing legislation of an amendment to section 544 of the Foreign Assistance Act of 1961 that provides the same authority as is provided by subsection (a).

SEC. 936. EXTENSION OF AUTHORITY TO PAY CERTAIN EXPENSES IN CONNECTION WITH BILATERAL AND REGIONAL COOPERATION PROGRAMS

(a) EXTENSION OF AUTHORITY TO MEETINGS, ETC., IN CANADA AND MEXICO.—Subsection (b)(1) of section 1051 of title 10, United States Code, is amended by inserting "or in connection with travel to Canada or Mexico" before the period at the end.

(b) THREE-YEAR EXTENSION OF AUTHORITY.—Subsection (g) of such section is amended by striking out "September 30, 1989" and inserting in lieu thereof "September 30, 1992".

SEC. 937. EXTENSION OF H-1 IMMIGRATION STATUS FOR CERTAIN NONIMMIGRANTS EMPLOYED IN COOPERATIVE RESEARCH AND DEVELOPMENT PROJECTS AND COPRODUCTION PROJECTS

8 USC 1101 note.

The Attorney General shall provide for the extension through December 31, 1991, of nonimmigrant status under section

101(a)(15)(H)(i) of the Immigration and Nationality Act (8 U.S.C. 1101(a)(15)(H)(i)) for an alien to perform temporarily services relating to a cooperative research and development project or a coproduction project provided under a government-to-government agreement administered by the Secretary of Defense in the case of an alien who has had such status for a period of at least five years if such status has not expired as of the date of the enactment of this Act but would otherwise expire during 1989, 1990, or 1991, due only to the time limitations with respect to such status.

SEC. 938. METHODS OF PAYMENT FOR ACQUISITIONS AND TRANSFERS BY THE UNITED STATES TO ALLIED COUNTRIES

(a) EXCHANGES TO BE FOR SUPPLIES OR SERVICES OF IDENTICAL VALUE.—Section 2344 of title 10, United States Code, is amended by striking out "identical or substantially identical nature" before the period at the end of subsection (a) and inserting in lieu thereof "equal value".

(b) LIMITATIONS ON EXCHANGES.—Such section is further amended by adding at the end the following new subsection:

"(c) In acquiring or transferring logistics support, supplies, or services under the authority of this chapter by exchange of supplies or services, the Secretary of Defense may not agree to or carry out the following:

"(1) Transfers in exchange for property the acquisition of which by the Department of Defense is prohibited by law.

"(2) Transfers of source, byproduct, or special nuclear materials or any other material, article, data, or thing of value the transfer of which is subject to the Atomic Energy Act of 1954 (42 U.S.C. 2011 et seq.).

"(3) Transfers of chemical munitions.".

(c) APPLICATION OF CHAPTER 138.—Section 2350d(e) of title 10, United States Code, as enacted by section 931(c), is amended by inserting "this chapter and" after "in accordance with".

TITLE X—MATTERS RELATING TO ARMS CONTROL

SEC. 1001. PRESIDENTIAL REPORT ON POSSIBLE EFFECTS OF A STRATEGIC ARMS REDUCTION AGREEMENT ON TRIDENT PROGRAM

(a) REPORT.—Not later than April 1, 1990, the President shall submit to Congress a comprehensive report on the Trident program under a possible Strategic Arms Reduction Talks (START) agreement. The report shall address the following issues:

(1) The objective for the size of the Trident submarine force fleet both with and without a START agreement.

(2) The implications for United States strategic force posture under a START agreement of a fleet of 21 or more Trident submarines, each with 192 warheads on 24 ballistic missiles, under two different assumptions, as follows:

(A) All such warheads are accountable under START limits.

(B) The warheads on one-to-three Trident submarines are not accountable under START limits.

(3) A net assessment of the implications for United States security of a START agreement that allows the Soviet Union as well as the United States to have an equivalent number of warheads on submarines that are not accountable under START limits.

(4) The technical feasibility and cost implications of various options for reducing the number of warheads on Trident submarines, including those submarines already built, those under construction, and those yet to be built.

(5) The verification challenges to the United States posed by such options if the Soviet Union were to adopt them in its ballistic missile submarine forces.

(b) FORM OF REPORT.—The President shall submit the report under subsection (a) in both classified and unclassified versions.

(c) WAIVER.—The President may waive the requirements of subsection (a) if he has signed a START agreement or other strategic arms reduction agreement with the Soviet Union before the date by which the report is otherwise required to be submitted.

SEC. 1002. PRESIDENTIAL REPORT ON THE VERIFICATION WORK THAT HAS BEEN CONDUCTED WITH REGARD TO MOBILE ICBMs UNDER A START AGREEMENT

(a) FINDINGS.—Congress makes the following findings:

(1) The United States must have confidence that any agreement achieved through the Strategic Arms Limitation Talks (START) in Geneva will be effectively verifiable.

(2) The position of the United States at the START negotiations, from 1985 until September 1989, was to ban the deployment of mobile intercontinental ballistic missiles (ICBMs) under a START regime unless an effective verification regime could be identified and implemented. In September 1989, the United States announced that it was withdrawing its proposal for the ban of mobile ICBMs, contingent upon Congress providing funds for mobile ICBMs to be deployed by the United States.

(3) The Soviet Union has deployed two mobile ICBM systems, the SS-24 and the SS-25.

(4) The President conducted a strategic review during the period between January 20, 1989, and the resumption of the START negotiations on June 15, 1989.

(b) PRESIDENTIAL REPORT.—Not later than March 31, 1990, the President shall submit to Congress a report (in classified and unclassified form) describing all studies that have been performed between March 1985 and August 1989 by agencies of the United States Government with regard to the capability of the United States to monitor and verify a START agreement which allows mobile ICBMs. The report shall include the following:

(1) A description of each study conducted by United States Government agencies during the strategic review referred to in subsection (a)(4) to determine the ability of the United States to verify limitations on mobile ICBMs of the Soviet Union under a START agreement, including a summary of the conclusions reached under each such study.

(2) A description of any so-called "Red Team" study conducted between March 1985 and August 1989 with regard to the existence of mobile ICBMs under a START regime, including a summary of the conclusions reached under each such study.

(3) A description of each study conducted by United States Government agencies between March 1989 and August 1989 to assess the value of various options relating to the verification of mobile ICBMs (such options to include the option known as "tagging" and the establishment of designated deployment

areas), including a summary of the conclusions reached under each such study.

SEC. 1003. SENSE OF CONGRESS ON START TALKS

Congress hereby reaffirms the sense of Congress expressed in the second session of the 100th Congress (in section 902 of the National Defense Authorization Act, Fiscal Year 1989 (Public Law 100-456; 102 Stat. 2031)) that any agreement negotiated by the President to achieve a reduction and limitation on strategic arms (through the Strategic Arms Reduction Talks in Geneva or otherwise)—

(1) should not prevent the United States from deploying a force structure under the agreement which emphasizes survivable strategic systems and, in particular, should not in any way compromise the security of the United States ballistic-missile carrying submarine force; and

(2) should not prohibit or limit the deployment of non-nuclear cruise missiles.

SEC. 1004. REPORT ON ASYMMETRIES IN CAPABILITIES OF UNITED STATES AND SOVIET UNION TO PRODUCE AND DEPLOY BALLISTIC MISSILE DEFENSE SYSTEMS

(a) STUDY REQUIRED.—The Secretary of Defense shall conduct a study on the asymmetry in the near-term capabilities of the United States and the Soviet Union to deploy ballistic missile defenses beyond those permitted under the 1972 ABM Treaty. The study shall be conducted in coordination with the Director of Central Intelligence.

(b) MATTERS TO BE INCLUDED IN STUDY.—Subject to subsection (e), the study shall include the following:

(1) An assessment of the likelihood of a breakout by the Soviet Union from the 1972 ABM Treaty in the next five years and the assumptions used for that assessment.

(2) An assessment of the capability of the Soviet Union to exploit a situation in which the limitations of the 1972 ABM Treaty do not apply, including a detailed assessment of the capabilities of the Soviet Union to produce—

(A) space-based anti-ballistic missile (ABM) launchers and interceptors;

(B) ground-based ABM launchers and interceptors; and

(C) the infrastructure for ABM battle management command, control, and communications.

(3) An assessment of the production base of the United States for production of the elements specified in subparagraphs (A), (B), and (C) of paragraph (2), including an estimate of how quickly the United States could respond to a breakout by the Soviet Union in each of those elements.

(c) STUDY TO ASSESS POSSIBLE UNITED STATES RESPONSE TO SOVIET BREAKOUT.—(1) The study shall also include an assessment of the immediate and long-term actions that could be taken by the United States to respond to redress any asymmetry in the potential of the United States and the Soviet Union to exploit a breakout by the Soviet Union from the 1972 ABM Treaty.

(2) That assessment shall include an evaluation of the actions that would be necessary to support—

(A) a one-site ABM system (as allowed under the Treaty); or

(B) an expanded ABM system unconstrained by the limitations of the 1972 ABM Treaty.

North Dakota.

(3) Such assessment shall specifically address the required actions, and the costs associated with those actions, to support both the one-site ABM system and the expanded ABM system to be evaluated under paragraph (2), including (A) the upgrading and expansion of the existing United States radar network, (B) the use of existing inactive ABM components at Grand Forks, North Dakota, and (C) the development and deployment of other required components.

(d) REPORT.—Not later than the date on which the budget for fiscal year 1991 is submitted to Congress pursuant to section 1105 of title 31, United States Code, the Secretary of Defense shall submit to Congress a report on the study under subsection (a). The report shall be submitted in both classified and unclassified form. The report shall specify the results of the study under subsection (a), including each matter required to be included in the study under this section.

(e) WAIVER OF REQUIRED STUDY FEATURE.—The study under subsection (a) need not include the assessment referred to in subsection (b)(1) if, before the date of the submission of the report required by subsection (d) with respect to the study, the President submits to Congress the report required by section 907 of the National Defense Authorization Act, Fiscal Year 1989 (Public Law 100-456; 102 Stat. 2034), regarding antiballistic missile capabilities and activities of the Soviet Union (such report having been required by subsection (c) of such section to be submitted not later than January 1, 1989).

(f) 1972 ABM TREATY DEFINED.—For purposes of this section, the term "1972 ABM Treaty" means the Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Limitations of Anti-Ballistic Missiles, signed at Moscow on May 26, 1972.

SEC. 1005. SENSE OF THE CONGRESS WITH RESPECT TO ACCIDENTAL LAUNCH PROTECTION

(a) FINDINGS.—Congress makes the following findings:

(1) The Strategic Defense Initiative (SDI) has made substantial progress in developing technologies to defend the United States from a possible ballistic missile attack, be it deliberate or accidental.

(2) Ground-based elements and their associated adjuncts and technologies represent the most mature technologies within the SDI program and should therefore receive priority by the Strategic Defense Initiative Organization.

(3) The United States is a signatory to the 1972 Anti-Ballistic Missile Treaty.

(4) There have been several accidents involving ballistic missiles, including the loss of a submarine of the Soviet Union due to inadvertent missile ignition and the inadvertent landing in China of a test missile of the Soviet Union.

(5) The continued proliferation of offensive ballistic missile forces by non-superpower countries hostile to the United States and our allies raises the possibility of future nuclear threats.

(b) REAFFIRMATION OF SENSE OF CONGRESS.—Congress hereby reaffirms the sense of Congress expressed in section 224(b) of the National Defense Authorization Act, Fiscal Year 1989 (Public Law 100-456; 102 Stat. 1942) stating—

(1) that the Secretary of Defense should direct the Strategic Defense Initiative Organization to give priority to development of technologies and systems for a system capable of protecting

the United States from the accidental launch of a strategic ballistic missile against the continental United States; and

(2) that such development of an accidental launch protection system should be carried out with an objective of ensuring that such system is in compliance with the 1972 Anti-Ballistic Missile Treaty.

(c) SUBMISSION OF PREVIOUSLY REQUIRED REPORT.—The Secretary of Defense shall submit to Congress forthwith the report on the status of planning for development of a deployment option for such an accidental launch protection system that was required by section 224(c) of that Act to be submitted not later than March 1, 1989.

SEC. 1006. CONGRESSIONAL FINDINGS AND SENSE OF CONGRESS CONCERNING THE KRASNOYARSK RADAR

(a) REAFFIRMATION OF PRIOR FINDINGS.—Congress hereby reaffirms the findings made with respect to the large phased-array radar of the Soviet Union known as the "Krasnoyarsk radar" in paragraphs (1) through (6) of section 902(a) of the National Defense Authorization Act for Fiscal Years 1988 and 1989 (Public Law 100-180; 101 Stat. 1135), as follows:

(1) The 1972 Anti-Ballistic Missile Treaty prohibits each party from deploying ballistic missile early warning radars except at locations along the periphery of its national territory and oriented outward.

(2) The 1972 Anti-Ballistic Missile Treaty prohibits each party from deploying an ABM system to defend its national territory and from providing a base for any such nationwide defense.

(3) Large phased-array radars were recognized during negotiation of the Anti-Ballistic Missile Treaty as the critical long lead-time element of a nationwide defense against ballistic missiles.

(4) In 1983 the United States discovered the construction, in the interior of the Soviet Union near the town of Krasnoyarsk, of a large phased-array radar that has subsequently been judged to be for ballistic early warning and tracking.

(5) The Krasnoyarsk radar is more than 700 kilometers from the Soviet-Mongolian border and is not directed outward but instead faces the northeast Soviet border more than 4,500 kilometers away.

(6) The Krasnoyarsk radar is identical to other Soviet ballistic missile early warning radars and is ideally situated to fill the gap that would otherwise exist in a nationwide Soviet ballistic missile early warning radar network.

(b) FURTHER FINDINGS.—In addition to the findings referred to in subsection (a), Congress finds with respect to the Krasnoyarsk radar that—

(1) in 1987 the President declared that radar to be a clear violation of the 1972 Anti-Ballistic Missile Treaty;

(2) until the meeting between the Secretary of State and the Foreign Minister of the Soviet Union at Jackson Hole, Wyoming, in September 1989, the Soviet Union had rejected demands by the United States that it dismantle that radar without conditions, but the joint statment issued following that meeting states that the government of the Soviet Union "had decided to completely dismantle the Krasnoyarsk radar station"; and

(3) on October 23, 1989, the Foreign Minister of the Soviet Union conceded that the Krasnoyarsk radar is a violation of the 1972 Anti-Ballistic Missile Treaty.

(c) SENSE OF CONGRESS.—It is the sense of Congress—

(1) that the Soviet Union should dismantle the Krasnoyarsk radar (as announced in the joint statement referred to in subsection (b)(2)) expeditiously and without conditions; and

(2) that until such radar is completely dismantled it will remain a clear violation of the 1972 Anti-Ballistic Missile Treaty.

SEC. 1007. SENSE OF CONGRESS CONCERNING EXPLORING THE FEASIBILITY OF TREATY LIMITATIONS ON WEAPONS CAPABLE OF THREATENING MILITARY SATELLITES

It is the sense of Congress that, as soon as practicable, the President should explore the feasibility of a mutual and verifiable treaty with the Soviet Union which places the strictest possible limitations, consistent with the security interests of the United States and its allies, on the development, testing, production, and deployment of weapons capable of directly threatening United States military satellites.

President of U.S.
Union of Soviet Socialist Republics.

SEC. 1008. REPORT ON SATELLITE SURVIVABILITY

(a) REQUIREMENT FOR REPORT.—The President shall submit to Congress a comprehensive report on United States antisatellite weapon activities and the survivability of United States satellites against current and potential antisatellite weapons deployed by the Soviet Union. The report shall be submitted by March 15, 1990, and shall be submitted in both classified and unclassified versions.

(b) MATTERS TO BE INCLUDED IN REPORT.—The report required by subsection (a) shall include the following:

(1) Detailed information (including funding profiles, expected capabilities, and schedules for development, testing, and deployment) on all United States antisatellite weapon programs.

(2) An analysis of the antisatellite potential of the anticipated deployed version of each Strategic Defense Initiative technology capable of damaging or destroying objects in space.

(3) An assessment of the threat that would be posed to satellites of the United States if the technologies described in paragraphs (1) and (2) were to be tested by the Soviet Union, at levels of performance equal to those intended by the United States, and developed into weapons for damaging or destroying objects in space.

(4) A review of arms control options and satellite survivability measures (including cost data) that would improve the survivability of current and future United States military satellite systems.

(5) A review of alternative means of providing the support to military forces of the United States that is currently provided by United States satellites if those satellites become vulnerable to attack as the result of the deployment by the Soviet Union of antisatellite weapons with the levels of performance contemplated in paragraph (3).

President of U.S.

SEC. 1009. REPORT ON THE DESIRABILITY OF NEGOTIATIONS WITH THE SOVIET UNION REGARDING LIMITATIONS ON ANTISATELLITE CAPABILITIES

(a) REPORT BY THE PRESIDENT.—The President shall submit to Congress a comprehensive report regarding the desirability of an agreement with the Soviet Union to impose limitations on antisatellite capabilities. The President shall include in such report his determination of whether a ban or other limitations on some or all antisatellite weapons would be verifiable and, if so, whether such a ban or other limitation would be in the national interest of the United States.

(b) MATTERS RELATING TO VERIFICATION.—In making the determination referred to in subsection (a), the President shall—

(1) consider the extent to which on-site inspection measures (as well as national technical means for verification) can increase confidence in the ability of the United States to monitor and verify various agreed-upon antisatellite limitations; and

(2) examine various arms control possibilities, including—

(A) a total ban on antisatellite capability by both the United States and the Soviet Union;

(B) a ban or other limitation on antisatellite weapons with the potential to attack satellites at altitudes above the Van Allen belt; and

(C) a ban or other limitation on antisatellite weapons that operate only in low-Earth orbit.

(c) MATTERS RELATING TO DETERRENCE AND WAR FIGHTING REQUIREMENTS.—In the report required by subsection (a), the President shall also address the following:

(1) The contribution an antisatellite capability of the United States can make toward enhancing deterrence.

(2) The contribution an antisatellite capability can make toward meeting the war fighting requirements of the United States and how such a capability enhances force survivability.

(3) The extent to which (based upon a net assessment) the United States would be better able to meet its war fighting requirements and deterrence objectives if—

(A) the Soviet Union possessed an antisatellite capability and the United States did not possess an antisatellite capability;

(B) neither the United States nor the Soviet Union possessed an antisatellite capability;

(C) the United States and the Soviet Union both possessed a limited antisatellite capability;

(D) the United States and the Soviet Union both possessed an unrestricted antisatellite capability.

(d) SUBMISSION OF REPORT.—The report required by subsection (a) shall be submitted to Congress not later than May 1, 1990, and shall be submitted in both classified and unclassified versions.

SEC. 1010. REPORT ON VERIFICATION OF COMPLIANCE WITH AGREEMENTS TO LIMIT NUCLEAR TESTING

(a) REPORT REQUIREMENT.—The Secretary of Energy shall prepare a report, in classified form, assessing the possible effects on the abilities of the United States to verify compliance by the Soviet Union with any agreement (presently in effect or under negotiation) to limit testing of nuclear devices should any information or data now obtained under any cooperative agreement with any controlled

country and used to verify the degree of such compliance be curtailed or become unavailable due to a change in, or severing of, diplomatic relations with such a controlled country. The report shall assess, in particular, whether compliance by the Soviet Union with any such agreement to limit testing of nuclear devices can be fully and reliably verified should such a cooperative agreement be curtailed or terminated. The report shall be prepared in consultation with the Secretary of Defense.

(b) SUBMISSION OF REPORT.—The report prepared under subsection (a) shall be submitted to Congress not later than six months after the date of the enactment of this Act.

(c) CONTROLLED COUNTRY DEFINITION.—For purposes of this section, the term "controlled country" means a country listed in section 620(f)(1) of the Foreign Assistance Act of 1961 (22 U.S.C. 2370(f)(1)).

SEC. 1011. SENSE OF CONGRESS ON ARMS CONTROL NEGOTIATIONS AND UNITED STATES MODERNIZATION POLICY

(a) FINDINGS.—Congress makes the following findings:

(1) The United States is currently engaged in a wide range of arms control negotiations in the areas of strategic nuclear forces, strategic defenses, conventional force levels, chemical weapons, and security and confidence building measures.

(2) On May 30, 1989, the North Atlantic Treaty Organization issued a "Comprehensive Concept on Arms Control and Disarmament" which placed a special emphasis on arms control as a means of enhancing security and stability in Europe.

(3) The President has stated that arms control is one of the highest priorities of the United States in the area of security and foreign policy and that the United States will pursue a dynamic, active arms control dialogue with the Soviet Union and the other Warsaw Pact countries.

(4) The United States has already made major proposals at the Conventional Forces in Europe Talks, convened on March 6, 1989, which would result in a dramatic reduction in Soviet and Warsaw Pact conventional forces.

(5) The President, on September 25, 1989, made a major new arms control proposal in the area of chemical weapons.

(b) SENSE OF CONGRESS.—It is the sense of Congress that—

(1) the President is to be commended for pursuing a wide array of arms control initiatives in the context of a multitude of arms control negotiations, all of which have been designed to enhance global security and result in meaningful, militarily significant reductions in military forces;

(2) Congress fully supports the arms control efforts of the President and encourages the government of the Soviet Union to respond favorably to United States arms control proposals which would require the Soviet Union to reduce its massive quantitative superiority in military weaponry;

(3) the President should seek arms control agreements that would not limit the United States to levels of forces inferior to the limits provided for the Soviet Union; and

(4) the President's efforts to negotiate such agreements is dependent upon the maintenance of a vigorous research and development and modernization program as required for a prudent defense posture.

(c) REAFFIRMATION OF PROHIBITION RELATING TO ENTERING INTO CERTAIN ARMS CONTROL AGREEMENTS.—Congress hereby reaffirms

the proviso in the first sentence of section 33 of the Arms Control and Disarmament Act (22 U.S.C. 2573) that no action may be taken under that Act or any other Act that will obligate the United States to disarm or to reduce or limit the Armed Forces or armaments of the United States, except pursuant to the treatymaking power of the President under the Constitution or unless authorized by further affirmative legislation by the Congress.

SEC. 1012. REPORT ON EFFECT OF SPACE NUCLEAR REACTORS ON GAMMA-RAY ASTRONOMY MISSIONS

Not later than April 30, 1990, the President shall submit to Congress a report on the potential for interference with gamma-ray astronomy missions that could be caused by the placement in Earth orbit of space nuclear reactors. President of U.S.

SEC. 1013. SENSE OF CONGRESS ON CHEMICAL WEAPONS NEGOTIATIONS

(a) FINDINGS.—Congress makes the following findings:

(1) The proliferation of chemical weapons and the repeated use of chemical weapons represent a grave threat to the security and interests of the United States.

(2) The most comprehensive and effective response to the threat posed by the proliferation of chemical weapons is the completion of an effectively verifiable treaty banning the production and stockpiling of all chemical weapons.

(3) The successful completion of a treaty banning all chemical weapons through the negotiations at the multinational United Nations Conference on Disarmament in Geneva should be one of the highest arms control priorities of the United States.

(b) SENSE OF CONGRESS.—In light of the findings in subsection (a), it is the sense of Congress that—

(1) the President should continue ongoing efforts to establish an agreement with the Soviet Union and other countries establishing a mutual and effectively verifiable agreement to stop the production, proliferation, and stockpiling of all lethal chemical weapons; and

(2) the United States negotiators in Geneva should take concrete steps to initiate proposals regarding the composition of the verification regime for such an agreeement that will meet the legitimate concerns of other parties while addressing the security concerns of the United States.

SEC. 1014. UNITED STATES PROGRAM FOR ON-SITE INSPECTIONS UNDER ARMS CONTROL AGREEMENTS

(a) FINDINGS CONCERNING ON-SITE INSPECTION PERSONNEL.—Congress makes the following findings: 22 USC 2595 note.

(1) The United States is currently engaged in multilateral and bilateral negotiations seeking to achieve treaties or agreements to reduce or eliminate various types of military weapons and to make certain reductions in military personnel levels. These negotiations include negotiations for (A) reductions in strategic forces, conventional armaments, and military personnel levels, (B) regimes for monitoring nuclear testing, and (C) the complete elimination of chemical weapons.

(2) Requirements for monitoring these possible treaties or agreements will be extensive and will place severe stress on the monitoring capabilities of United States national technical means.

(3) In the case of the INF Treaty, the United States and the Soviet Union negotiated, and are currently using, on-site inspection procedures to complement and support monitoring by national technical means. Similar on-site inspection procedures are being negotiated for inclusion in possible future treaties and agreements referred to in paragraph (1).

(4) During initial implementation of the provisions of the INF Treaty, the United States was not fully prepared for the personnel requirements for the conduct of on-site inspections. The Director of Central Intelligence has stated that on-site inspection requirements for any strategic arms reduction treaty or agreement will be far more extensive than those for the INF Treaty. The number of locations within the Soviet Union that would possibly be subject to on-site inspections under a START agreement have been estimated to be approximately 2,500 (compared to 120 for the INF Treaty).

(5) On-site inspection procedures are likely to be an integral part of any future arms control treaty or agreement.

(6) Personnel requirements will be extensive for such on-site inspection procedures, both in terms of numbers of personnel and technical and linguistic skills. Since verification requirements for the INF Treaty are already placing severe stress on current personnel resources, the requirements for verification under START and other possible future treaties and agreements may quickly exceed the current number of verification personnel having necessary technical and language skills.

(7) There is a clear need for a database of the names of individuals who are members of the Armed Forces or civilian employees of the United States Government, or of other citizens and nationals of the United States, who are qualified (by reason of technical or language skills) to participate in on-site inspections under an arms control treaty or agreement.

(8) The organization best suited to establish such a database is the On-Site Inspection Agency (OSIA) of the Department of Defense, which was created by the President to implement (for the United States) the on-site inspection provisions of the INF Treaty.

(b) STATUS OF THE OSIA.—(1) Congress finds that—

(A) the Director of the OSIA (currently a brigadier general of the Army) is appointed by the Secretary of Defense with the concurrence of the Secretary of State and the approval of the President;

(B) the Secretary of Defense provides to the Director appropriate policy guidance formulated by the interagency arms control mechanism established by the President;

(C) most of the personnel of the OSIA are members of the Armed Forces (who are trained and paid by the military departments within the Department of Defense) and include linguists, weapons specialists, and foreign area specialists;

(D) the Department of Defense provides the OSIA with substantially all of its administrative and logistic support (including military air transportation for inspections in the Soviet Union and Eastern Europe); and

(E) the facilities in Europe and the United States at which OSIA personnel escort personnel of the Soviet Union conducting inspections under the on-site inspection terms of the INF Treaty are under the jurisdiction of the Department of Defense (or

under the jurisdiction of entities that are contractors with the Department of Defense).

(2) In light of the findings in paragraph (1) and the report submitted pursuant to section 909 of Public Law 100-456 entitled "Report to the Congress on U.S. Monitoring and Verification Activities Related to the INF Treaty" (submitted on July 27, 1989), Congress hereby determines that by locating the On-Site Inspection Agency within the Department of Defense for the purposes of administrative and logistic support and operational guidance, and integrating on-site inspection responsibilities under the INF Treaty with existing organizational activities of that Department, the President has been able to ensure that sensitive national security assets are protected and that obligations of the United States under that treaty are fulfilled in an efficient and cost-effective manner.

(c) ESTABLISHMENT OF PERSONNEL DATABASE.—(1) In light of the findings in subsection (a), the Director of the On-Site Inspection Agency shall establish a database consisting of the names of individuals who could be assigned or detailed (in the case of Government personnel) or employed (in the case of non-Government personnel) to participate in the conduct of on-site inspections under any future arms control treaty or agreement that includes provisions for such inspections.

(2) The database should be composed of the names of individuals with skills (including linguistic and technical skills) necessary for the conduct of on-site inspections.

(d) INF TREATY DEFINED.—For purposes of this section, the term "INF Treaty" means the Treaty Between the United States and the Union of Soviet Socialist Republics on the Elimination of Their Intermediate-Range and Shorter-Range Missiles, signed in Washington, DC, on December 8, 1987.

TITLE XI—DEPARTMENT OF DEFENSE ORGANIZATION AND MANAGEMENT MATTERS

PART A—FORCE STRUCTURE

SEC. 1101. STUDY OF TOTAL FORCE POLICY, FORCE MIX, AND MILITARY FORCE STRUCTURE

(a) FINDINGS.—Congress makes the following findings:

(1) Since the inception of the Total Force Policy in the Department of Defense in 1973, there has never been a comprehensive, authoritative study done by the Department on the operation and effectiveness of that policy.

(2) Decisions within the Department of Defense with respect to military force mix appear to be made in a fragmented and decentralized manner.

(3) A comprehensive study of the Total Force Policy, force mix, and military force structure is long overdue.

(b) STUDY.—(1) The Secretary of Defense shall convene a study group to review the operation, effectiveness, and soundness of the following policies and practices of the Department of Defense and to make recommendations to the Secretary for improvement of those policies and practices:

(A) The Total Force Policy.

(B) Assignment of missions within and between the active and reserve components of the armed forces.

(C) Force structure of the active and reserve components of the armed forces.

(2) The study group shall include—

(A) senior-level active-duty officers from each branch of the armed forces;

(B) senior-level reserve-component officers from each of the seven reserve components;

(C) civilian officials of the Department of Defense; and

(D) such participants from outside the Department of Defense as the Secretary considers appropriate.

(3) The Chairman of the Joint Chiefs of Staff shall provide such joint staff support to the study group as necessary. He shall participate in the activities of the study group in accordance with the provisions of section 153 of title 10, United States Code, including the responsibility to assess the conformance of manpower programs and policies with strategic plans and to advise the study group about the extent to which program recommendations and budget proposals conform with the priorities established in strategic plans and for the combatant commands.

(4) The Secretary shall ensure that the study group, in carrying out its duties and responsibilities, has access to federally funded research centers (FFRCs) and other necessary support.

(5) The Secretary of Defense shall consult with the Secretary of Transportation with respect to the functions of the study group insofar as they relate to the Selected Reserve of the Coast Guard Reserve.

Classified information.

(6) Meetings of the study group may be closed to the public in connection with the consideration of classified material.

(c) MATTERS TO BE CONSIDERED.—(1) In carrying out the study required by subsection (a), the study group shall evaluate and make recommendations to the Secretary concerning each of the following matters (with each such matter to be evaluated separately insofar as it relates to each policy or practice set forth in subparagraphs (A) through (C) of subsection (b)(1)):

(1) With respect to the Total Force Policy of the Department of Defense, the basic tenets of that policy, how well that policy has been implemented, and what changes (if any) are desirable to improve upon that policy and its implementation.

(2) The effectiveness of the existing chain of management and command responsibility in evaluating and integrating force requirements among the armed forces, and between the active components and the reserve components.

(3) The extent to which officials responsible for such evaluation and integration of force requirements currently (and should in the future) participate in the budget and resource allocation processes of the Department of Defense.

(4) The adequacy of the methodology used by the Department of Defense in the assignment of missions between the active and reserve components and, within each active and reserve component, the assignment of missions among various major types of units, including—

(A) the extent to which that methodology includes the use of cost-benefit analyses; and

(B) the methodology for the manner by which force reductions are distributed within individual units and between active and reserve components.

(5) The scope and size of force reductions with respect to major units (such as air wings, carrier groups, and divisions) that would result in an irreversible change of the capability of those units to perform assigned missions, with emphasis on considerations such as mobilization, loss of skilled manpower, equipment, and training.

(d) ADDITIONAL MATTERS TO BE CONSIDERED.—(1) In carrying out its study and making its recommendations, the study group shall also evaluate the process by which decisions within the Department of Defense respecting force mix and force structure are made with regard to the readiness, sustainability, and overall mission capability of the active and reserve forces. The study group shall also consider whether the Department of Defense has a cogent strategy for making such decisions with respect to force mix that anticipates a substantially smaller military force structure in the future and whether the Department has developed a system for regular and systematic top-level evaluation of decisions respecting force mix or reductions in force structure.

(2) In carrying out the evaluation required by paragraph (1), the study group shall consider (among other matters it considers appropriate) the following:

(A) The optimal structure of military forces required to meet the threat as described in net assessments prepared pursuant to section 153 of title 10, United States Code, taking into account currently available and projected budget resources.

(B) The appropriateness of the missions that have been assigned to major units (such as air wings, carrier groups, and divisions) in each of the active and reserve components in view of the status of those units with respect to personnel and equipment resources and training systems.

(C) The response times for the deployment of such units in the event of a mobilization.

(D) An evaluation of the readiness and sustainability of each of the active and reserve components and of the contributions of each such component to the overall military capability of the United States.

(E) The extent to which the active and reserve component units that are identified for use during the first 30 days of a mobilization are prepared to undertake wartime missions (as measured against the standards established by the Chairman of the Joint Chiefs of Staff in accordance with section 153 of title 10, United States Code), the reasons for any lack of preparedness for such missions, and recommendations for measures that would be necessary for those units to become fully mission capable.

(F) The adequacy of equipment distribution and modernization in the active and reserve components, including consideration of the importance of prepositioning of light and heavy equipment in the mobilization process.

(G) The adequacy of the current base of military personnel and equipment available for short notice rotation and deployment in order to meet worldwide defense commitments.

(H) The capability of each component of the active and reserve forces to meet assigned and projected missions at each step in the mobilization process and the adequacy of current airlift and sealift capability.

(I) The resources (including funds) needed for sufficient personnel, equipment, and training to achieve desired force structure and mission capability in both the active and reserve components.

(J) The capability of the active and reserve components, jointly and separately, to respond to mobilization requirements at each stage of the mobilization process.

(d) REPORTS.—(1) The study group shall submit to the Secretary of Defense an interim report on its findings and recommendations at such time as the Secretary may require, but not later than September 1, 1990. The Secretary shall submit the interim report to the Committees on Armed Services of the Senate and the House of Representatives not later than September 15, 1990.

(2) The study group shall submit its final report, including its findings and recommendations, to the Secretary not later than December 1, 1990. The Secretary shall submit the final report of the study group, together with any comment and recommendation of the Secretary, to those committees not later than December 31, 1990.

(e) LIMITATION ON OBLIGATION OF CERTAIN FUNDS IF REPORTS SUBMITTED LATE.—If either of the reports required by subsection (d) is not submitted to those committees by the date specified in that subsection for the report to be submitted, the Secretary of Defense may not, on or after that date, obligate any funds for a new contract for advisory, consultant, or assistance services until the report is submitted.

SEC. 1102. STUDIES OF CLOSE SUPPORT FOR LAND FORCES

(a) SECRETARY OF DEFENSE STUDY.—The Secretary of Defense shall conduct a study of close support, including close air support.

(b) CONTRACTOR STUDY.—In conducting the study required by subsection (a), the Secretary shall provide for a study to be conducted by the Institute for Defense Analysis, a Federal contract research center. The Institute shall submit a report to the Secretary on such study at such time before March 1, 1990, as the Secretary may require.

Reports.

(c) JCS STUDY.—The Chairman of the Joint Chiefs of Staff shall conduct a study of close support, including close air support. The Chairman shall submit a report to the Secretary of Defense on such study at such time before March 1, 1990, as the Secretary may require.

Reports.

(d) STUDIES TO BE INDEPENDENT.—Each study under subsections (a), (b), and (c) shall be conducted independently of the others.

(e) MATTERS TO BE INCLUDED.—The studies conducted under subsections (a), (b), and (c) shall include consideration of each of the following:

(1) The nature of the present, and anticipated future, battlefield across a representative set of conflict levels.

(2) The requirements of the land force for close support across this representative set of conflict levels in terms of targets and time, including the lessons of recent combat experience.

(3) With regard to the battlefields and close support requirements identified pursuant to paragraphs (1) and (2), the current and anticipated ground and air systems capable of meeting these requirements.

(4) With regard to these major systems, their significant characteristics in terms of effectiveness, integration with allies, command and control, survivability, and life-cycle cost.

(5) The implications (in terms of roles and missions) of the selection of, or failure to select, each of these major systems as part of an appropriate force structure.

(f) REPORT TO CONGRESS.—The Secretary of Defense shall submit to Congress a report on the studies conducted under this section. The report shall include—

(1) the findings, conclusions, and recommendations of the Secretary in the study conducted by the Secretary under subsection (a) with respect to each of the matters set forth in subsection (e);

(2) copies of the reports to the Secretary under subsections (b) and (c), including the findings, conclusions, and recommendations contained in those reports; and

(3) such comments on those reports as the Secretary considers appropriate.

(g) TIME FOR SUBMISSION.—The report required under subsection (f) shall be submitted not later than March 1, 1990.

(h) CLOSE AIR SUPPORT DEFINED.—For purposes of this section, the term "close air support", as defined in Joint Chiefs of Staff Publication 1, dated June 1, 1987, means air action against hostile targets which are in close proximity to friendly forces and which require detailed integration of each air mission with the fire and movement of those forces.

SEC. 1103. STRATEGIC AIR DEFENSE ALERT MISSION

(a) READINESS OF AIR NATIONAL GUARD UNITS.—The Secretary of Defense shall ensure that those units of the Air National Guard that are assigned to carry out the strategic air defense mission in the northern portion of the United States retain the capability to generate and maintain a readiness posture that meets the needs of all operations plans of the North American Aerospace Defense Command (NORAD).

(b) FISCAL YEAR 1990 LIMITATION.—During fiscal year 1990, the Secretary of Defense may not reduce the man years or flying hours of the units described in subsection (a).

(c) REPORT.—Not later than March 1, 1990, the Secretary of the Air Force shall submit to the Committees on Armed Services of the Senate and House of Representatives a report on the strategic air defense alert mission. The report shall describe the following:

(1) The rationale and goals for the strategic air defense modernization program undertaken jointly by the United States and Canada.

(2) The operational requirements of NORAD in crisis and wartime for generating and forward deploying air defense forces of the Air National Guard based in the northern portion of the United States.

(3) The plans of the Air Force for maintaining the readiness of aircraft, flight crews, maintenance personnel, control tower personnel, and security forces of the air defense units described in subsection (a) to implement NORAD operations plans.

(4) The plans of the Air Force for transitioning from current interceptor aircraft and current peacetime unit alert mission and training practices to new aircraft and new unit alert mis-

sion and training practices, including the effect of such transition on unit manning levels and combat mission readiness.

(5) The current ability of the forward operating bases in Canada to accommodate forward deployment of air defense units on a sustained basis and plans of the Air Force for the improvement of such bases.

(6) The current and planned radars, intercept systems, communications systems, and command elements (together with deployment schedules for those which are planned) that are intended to detect, identify, track, and intercept intruders into northern Canadian airspace during peacetime, during periods of heightened tension, and during hostilities.

(d) REPEAL.—Section 713 of the National Defense Authorization Act, Fiscal Year 1989 (Public Law 100-456; 102 Stat. 1998), is repealed.

SEC. 1104. SENSE OF CONGRESS CONCERNING REASSIGNMENT OF UNITS FROM FORT KNOX, KENTUCKY, TO FORT IRWIN, CALIFORNIA

It is the sense of Congress that any combat unit of battalion or squadron size (or larger size) that on the date of the enactment of this Act is stationed at Fort Knox, Kentucky, shall not be permanently reassigned to Fort Irwin, California.

PART B—GENERAL MANAGEMENT MATTERS

SEC. 1111. ADDITIONAL FUNDING FOR UNIFIED AND SPECIFIED COMBATANT COMMANDS FOR FISCAL YEAR 1990

Of the funds authorized to be appropriated pursuant to section 301 for the Defense Agencies for fiscal year 1990, $25,000,000 shall be available for the establishment of a fund under the management of the Chairman of the Joint Chiefs of Staff for use in response to the request of a commander of a unified or specified combatant command for additional funding of the following activities:

(1) Joint exercises (including foreign country participation).

(2) Force training.

(3) Contingencies.

(4) Selected operations.

(5) Command and control.

(6) Military education and training to military and related civilian personnel of foreign countries.

(7) Personnel expenses of defense personnel for bilateral or regional cooperation programs.

SEC. 1112. CORRECTION OF PAY GRADE FOR NEW ASSISTANT SECRETARY OF THE AIR FORCE

Section 5315 of title 5, United States Code, is amended by striking out "(3)" after "Assistant Secretaries of the Air Force" and inserting in lieu thereof "(4)".

SEC. 1113. CLARIFICATION OF REQUIREMENT FOR COMPLETION OF FULL TOUR OF DUTY AS QUALIFICATION FOR SELECTION AS A JOINT SPECIALTY OFFICER

Section 661(c) of title 10, United States Code, is amended by striking out "(as described in section 664 (f)(1) or (f)(3) of this title)" in paragraphs (1)(B) and (3)(A) and inserting in lieu thereof "(as described in section 664(f) of this title (other than in paragraph (2) thereof))".

PART C—PROFESSIONAL MILITARY EDUCATION

SEC. 1121. REPORTS RELATING TO COURSES OF INSTRUCTION AT CERTAIN PROFESSIONAL MILITARY EDUCATION SCHOOLS AND PROFESSIONAL MILITARY EDUCATION REQUIREMENTS FOR PROMOTION TO GENERAL OR FLAG GRADE

(a) SERVICE SECRETARIES REPORTS.—(1) The Secretary of each military department shall submit to the Secretary of Defense a report—

(A) evaluating the principal courses of instruction at each intermediate or senior professional military education school operated by that department in light of the mission of that school; and

(B) recommending the appropriate duration for those courses and the level and courses of professional military education that should be required before an officer is selected for promotion to the grade of brigadier general or, in the case of the Navy, rear admiral (lower half).

(2) The reports required by paragraph (1) shall be prepared independently of the report required by subsection (b) and independently of each other.

(3) The reports required by paragraph (1) shall be submitted at such time as may be required by the Secretary of Defense.

(b) SECRETARY OF DEFENSE REPORT.—(1) The Secretary of Defense shall submit to the Committees on Armed Services of the Senate and House of Representatives a report—

(A) containing copies of the reports submitted to the Secretary under subsection (a), together with such comments on each report as the Secretary considers appropriate;

(B) evaluating the principal courses of instruction at each intermediate or senior professional military education school in light of the mission of that school; and

(C) recommending the appropriate duration for those courses and the level and types of professional military education that should be required before an officer is selected for promotion to the grade of brigadier general or, in the case of the Navy, rear admiral (lower half).

(2) The report required by paragraph (1) shall be submitted not later than April 2, 1990.

(c) OTHER MATTERS TO BE INCLUDED IN REPORTS.—The reports required by subsection (a) and subsection (b) shall include a discussion of the following:

(1) The implications of establishing by law a minimum length of 10 months duration for the principal courses of instruction at each intermediate or senior professional military education school.

(2) The implications of requiring by law, beginning January 1, 1999, that a prerequisite for selection of an officer for promotion to the grade of brigadier general or, in the case of the Navy, rear admiral (lower half) shall be graduation from an intermediate professional military education school and a senior professional military education school.

(3) The practicability of providing that—

(A) the promotion eligibility of an officer may not be adversely affected by the attendance of the officer at a professional military education course of 10 months or more

at an intermediate or senior professional military education school; and

(B) an officer who attends a professional military education course of 10 months or more at an intermediate or senior professional military education school shall be entitled to an additional year of service for each such course to prevent prejudice when considering the officer for discharge or retirement pursuant to subchapter III of chapter 36 of title 10, United States Code—

(i) for failure of selection for promotion; or

(ii) for years of service.

(d) INTERMEDIATE OR SENIOR PROFESSIONAL MILITARY EDUCATION SCHOOL DEFINED.—For purposes of this section, the term "intermediate or senior professional military education school" means any of the following:

(1) The Army War College.

(2) The College of Naval Warfare.

(3) The Air War College.

(4) The United States Army Command and General Staff College.

(5) The College of Naval Command and Staff.

(6) The Air Command and Staff College.

(7) The Marine Corps Command and Staff College.

SEC. 1122. CLARIFICATION REGARDING SCHOOLS THAT ARE JOINT PROFESSIONAL MILITARY EDUCATION SCHOOLS FOR PURPOSES OF QUALIFICATION OF OFFICERS FOR JOINT SPECIALTY

Section 661(c) of title 10, United States Code, is amended by adding at the end the following new paragraph:

"(4) For purposes of this chapter, a school that is organized within, and operated by, a military department may not be construed to be a joint professional military education school.".

SEC. 1123. PROFESSIONAL MILITARY EDUCATION IN JOINT MATTERS

(a) EXISTING EFFORTS TO IMPROVE PROFESSIONAL MILITARY EDUCATION.—(1) The Goldwater-Nichols Department of Defense Reorganization Act of 1986 (Public Law 99-433; 100 Stat. 992) mandated—

(A) the strengthening of the focus on joint matters in courses of instruction offered by professional military education schools operated by the military departments; and

(B) the maintenance of rigorous standards at joint professional military education schools for the education of joint specialty officers.

(2) Congress applauds the actions taken since 1986 by the Secretary of Defense and the Chairman of the Joint Chiefs of Staff, consistent with such mandate, to improve professional military education provided by intermediate and senior professional military education schools.

(b) STATEMENT OF CONGRESSIONAL POLICY.—As part of the efforts of the Secretary of Defense to improve professional military education, Congress urges, as a matter of policy, and fully expects the Secretary to establish the following:

(1) A coherent and comprehensive framework for the education of officers, including officers nominated for the joint specialty.

(2) A two-phase approach to strengthening the focus on joint matters, as follows:

(A) Phase I instruction consisting of a joint curriculum, in addition to the principal curriculum taught to all officers at service-operated professional military education schools.

(B) Phase II instruction consisting of a follow-on, solely joint curriculum taught at the Armed Forces Staff College to officers who are expected to be selected for the joint specialty. The curriculum should emphasize multiple "hands on" exercises and must adequately prepare students to perform effectively from the outset in what will probably be their first exposure to a totally new environment, an assignment to a joint, multiservice organization. Phase II instruction should be structured so that students progress from a basic knowledge of joint matters learned in Phase I to the level of expertise necessary for successful performance in the joint arena.

(3) A sequenced approach to joint education in which the norm would require an officer to complete Phase I instruction before proceeding to Phase II instruction. An exception to the normal sequence should be granted by the Chairman of the Joint Chiefs of Staff only on a case-by-case basis for compelling cause. Officers selected to receive such an exception should be required to demonstrate a basic knowledge of joint matters and other aspects of the Phase I curriculum that qualifies them to meet the minimum requirements established for entry into Phase II instruction without first completing Phase I instruction. The number of officers selected to attend an offering of the principal course of instruction at the Armed Forces Staff College who have not completed Phase I instruction should comprise only a small portion of the total number of officers selected.

(c) DURATION OF PRINCIPAL COURSE OF INSTRUCTION AT THE ARMED FORCES STAFF COLLEGE.—(1) Section 663 of title 10, United States Code, is amended by adding at the end the following new subsection:

"(e) DURATION OF PRINCIPAL COURSE OF INSTRUCTION AT ARMED FORCES STAFF COLLEGE.—The duration of the principal course of instruction offered at the Armed Forces Staff College may not be less than three months.".

(2) Subsection (e) of such section, as added by paragraph (1), shall be implemented by the Secretary of Defense not later than two years after the date of the enactment of this Act.

(d) INFORMATION REGARDING STUDENTS ATTENDING THE ARMED FORCES STAFF COLLEGE.—Section 667 of such title is amended—

(1) by redesignating paragraph (17) as paragraph (18); and

(2) by inserting after paragraph (16) the following new paragraph:

"(17) With regard to each time the principal course of instruction at the Armed Forces Staff College is offered—

"(A) the number of officers selected to attend that course who did not first complete while in residence at a professional military education school operated by a military department the principal course of instruction offered at that school;

"(B) the number of those officers as a percentage of all officers who attended that course of instruction at the Armed Forces Staff College;

"(C) a description of the different reasons why officers were selected to attend that course without first attending the principal course of instruction offered at a professional military education school operated by a military department; and

"(D) the number of officers so selected for each such reason.".

(e) JOINT MATTERS DEFINED.—For purposes of this section, the term "joint matters" has the meaning given to that term in section 668(a) of title 10, United States Code.

SEC. 1124. EMPLOYMENT OF CIVILIAN FACULTY MEMBERS AT PROFESSIONAL MILITARY EDUCATION SCHOOLS

(a) NATIONAL DEFENSE UNIVERSITY.—(1) Chapter 81 of title 10, United States Code, is amended by adding after section 1594 (as added by section 664(b)) the following new section:

"§ 1595. National Defense University: civilian faculty members

"(a) AUTHORITY OF SECRETARY.—The Secretary of Defense may employ as many civilians as professors, instructors, and lecturers at the National Defense University as the Secretary considers necessary.

"(b) COMPENSATION OF FACULTY MEMBERS.—The compensation of persons employed under this section shall be as prescribed by the Secretary.

"(c) APPLICATION TO CERTAIN FACULTY MEMBERS.—This section shall apply with respect to persons who are selected by the Secretary for employment as professors, instructors, and lecturers at the National Defense University after the end of the 90-day period beginning on the date of the enactment of this section.

"(d) NATIONAL DEFENSE UNIVERSITY DEFINED.—In this section, the term 'National Defense University' includes the National War College, the Armed Forces Staff College, and the Industrial College of the Armed Forces.".

(2) The table of sections at the beginning of such chapter is amended by adding after the item relating to section 1594 (as added by section 664(b)) the following new item:

"1595. National Defense University: civilian faculty members.".

(b) ARMY WAR COLLEGE AND UNITED STATES ARMY COMMAND AND GENERAL STAFF COLLEGE.—(1) Chapter 373 of title 10, United States Code, is amended by inserting after the table of sections the following new section:

"§ 4021. Army War College and United States Army Command and General Staff College: civilian faculty members

"(a) AUTHORITY OF SECRETARY.—The Secretary of the Army may employ as many civilians as professors, instructors, and lecturers at the Army War College or the United States Army Command and General Staff College as the Secretary considers necessary.

"(b) COMPENSATION OF FACULTY MEMBERS.—The compensation of persons employed under this section shall be as prescribed by the Secretary.

"(c) APPLICATION TO CERTAIN FACULTY MEMBERS.—(1) Except as provided in paragraph (2), this section shall apply with respect to persons who are selected by the Secretary for employment as professors, instructors, and lecturers at the Army War College or the United States Army Command and General Staff College after the

end of the 90-day period beginning on the date of the enactment of this section.

"(2) This section shall not apply with respect to professors, instructors, and lecturers employed at the Army War College or the United States Army Command and General Staff College if the duration of the principal course of instruction offered at the college involved is less than 10 months.".

(2) The table of sections at the beginning of such chapter is amended by inserting before the item relating to section 4024 the following new item:

"4021. Army War College and United States Army Command and General Staff College: civilian faculty members.".

(c) NAVAL WAR COLLEGE AND MARINE CORPS COMMAND AND STAFF COLLEGE.—(1) Section 7478 of title 10, United States Code, is amended to read as follows:

"§ 7478. Naval War College and Marine Corps Command and Staff College: civilian faculty members

"(a) AUTHORITY OF SECRETARY.—The Secretary of the Navy may employ as many civilians as professors, instructors, and lecturers at a school of the Naval War College or at the Marine Corps Command and Staff College as the Secretary considers necessary.

"(b) COMPENSATION OF FACULTY MEMBERS.—The compensation of persons employed under this section shall be as prescribed by the Secretary.

"(c) APPLICATION TO CERTAIN FACULTY MEMBERS.—This section shall not apply with respect to professors, instructors, and lecturers employed at a school of the Naval War College or at the Marine Corps Command and Staff College if the duration of the principal course of instruction offered at the school or college involved is less than 10 months.".

(2) The item relating to such section in the table of sections at the beginning of chapter 643 of such title is amended to read as follows:

"7478. Naval War College and Marine Corps Command and Staff College: civilian faculty members.".

(d) AIR UNIVERSITY.—(1) Chapter 873 of title 10, United States Code, is amended by inserting after the table of sections the following new section:

"§ 9021. Air University: civilian faculty members

"(a) AUTHORITY OF SECRETARY.—The Secretary of the Air Force may employ as many civilians as professors, instructors, and lecturers at a school of the Air University as the Secretary considers necessary.

"(b) COMPENSATION OF FACULTY MEMBERS.—The compensation of persons employed under this section shall be as prescribed by the Secretary.

"(c) APPLICATION TO CERTAIN FACULTY MEMBERS.—(1) Except as provided in paragraph (2), this section shall apply with respect to persons who are selected by the Secretary for employment as professors, instructors, and lecturers at a school of the Air University after the end of the 90-day period beginning on the date of the enactment of this section.

"(2) This section shall not apply with respect to professors, instructors, and lecturers employed at a school of the Air University if the

duration of the principal course of instruction offered at that school is less than 10 months.".

(2) The table of sections at the beginning of such chapter is amended by inserting before the item relating to section 9025 the following new item:

"9021. Air University: civilian faculty members.".

(e) CONFORMING AMENDMENTS.—Section 5102(c)(10) of title 5, United States Code, is amended—

(1) by inserting after "(10)" the following: "civilian professors, instructors, and lecturers at a professional military education school whose pay is fixed under section 1595, 4021, 7478, or 9021 of title 10;";

(2) by striking out "the Naval War College and"; and

(3) by striking out "sections 6952 and 7478" and inserting in lieu thereof "section 6952".

PART D—CONTRACTING OUT

SEC. 1131. ONE-YEAR EXTENSION OF AUTHORITY OF BASE COMMANDERS OVER CONTRACTING FOR COMMERCIAL ACTIVITIES

(a) IN GENERAL.—(1) Chapter 146 of title 10, United States Code, is amended by adding at the end the following new section:

"§ 2468. Military installations: authority of base commanders over contracting for commercial activities

"(a) AUTHORITY OF BASE COMMANDER.—The Secretary of Defense shall direct that the commander of each military installation shall have the authority and the responsibility to enter into contracts in accordance with this section for the performance of a commercial activity on the military installation.

"(b) YEARLY DUTIES OF BASE COMMANDER.—To enter into a contract under subsection (a) for a fiscal year, the commander of a military installation shall—

"(1) prepare an inventory for that fiscal year of commercial activities carried out by Government personnel on the military installation;

"(2) decide which commercial activities shall be reviewed under the procedures and requirements of Office of Management and Budget Circular A-76 (or any successor administrative regulation or policy); and

"(3) conduct a solicitation for contracts for the performance of those commercial activities selected for conversion to contractor performance under the Circular A-76 process.

Regulations.

"(c) LIMITATIONS.—(1) The Secretary of Defense shall prescribe regulations under which the commander of each military installation may exercise the authority and responsibility provided under subsection (a).

"(2) The authority and responsibility provided under subsection (a) are subject to the authority, direction, and control of the Secretary.

"(d) ASSISTANCE TO DISPLACED EMPLOYEES.—If the commander of a military installation enters into a contract under subsection (a), the commander shall, to the maximum extent practicable, assist in finding suitable employment for any employee of the Department of Defense who is displaced because of that contract.

"(e) MILITARY INSTALLATION DEFINED.—In this section, the term 'military installation' means a base, camp, post, station, yard,

center, or other activity under the jurisdiction of the Secretary of a military department which is located within the United States, the Commonwealth of Puerto Rico, or Guam.

"(f) TERMINATION OF AUTHORITY.—The authority provided to commanders of military installations by subsection (a) shall terminate on September 30, 1990.".

(2) The table of sections at the beginning of such chapter is amended by adding at the end the following new item:

"2468. Military installations: authority of base commanders over contracting for commercial activities.".

(b) EFFECTIVE DATE.—Section 2468 of title 10, United States Code (as added by subsection (a)), shall take effect as of October 1, 1989.

SEC. 1132. EXCEPTION FROM COST COMPARISON PROCEDURES FOR PURCHASE OF PRODUCTS AND SERVICES OF THE BLIND AND OTHER SEVERELY HANDICAPPED INDIVIDUALS

Section 2461 of title 10, United States Code, is amended—

(1) by redesignating subsections (e) and (f) as subsections (f) and (g), respectively; and

(2) by inserting after subsection (d) the following new subsection:

"(e) WAIVER FOR THE PURCHASE OF PRODUCTS AND SERVICES OF THE BLIND AND OTHER SEVERELY HANDICAPPED PERSONS.—Subsections (a) through (c) shall not apply to a commercial or industrial type function of the Department of Defense that—

"(1) is included on the procurement list established pursuant to section 2 of the Act of June 25, 1938 (41 U.S.C. 47), popularly referred to as the Wagner-O'Day Act; or

"(2) is planned to be converted to performance by a qualified nonprofit agency for the blind or by a qualified nonprofit agency for other severely handicapped persons in accordance with that Act.".

SEC. 1133. COMMERCIAL ACTIVITIES STUDY FOR BASE SUPPORT OPERATIONS AT FORT BENJAMIN HARRISON

Indiana

(a) STUDY REQUIRED.—Commercial activities carried out by Government personnel at Fort Benjamin Harrison, Indiana, may not be converted to performance by private contractor under the procedures and requirements of Office of Management and Budget Circular A-76 (or any successor administrative regulation or policy) until the Secretary of the Army completes a new commercial activities study for the military installation.

(b) CONTENT OF STUDY.—The commercial activities study referred to in subsection (a) shall include—

(1) work-load data through fiscal year 1989; and

(2) sufficient data regarding the commercial activities examined for possible conversion to performance by private contractor to permit the use of fixed-price contracts for those commercial activities selected for conversion.

SEC. 1134. EVALUATION AND REPORT ON COMMERCIAL ACTIVITIES STUDY AT THE NIAGARA FALLS AIR FORCE RESERVE BASE

(a) EVALUATION AND REPORT REQUIRED.—Commercial activities carried out by Government personnel at the Niagara Falls Air Force Reserve Base, New York, may not be converted to performance by private contractor under the procedures and requirements of Office of Management and Budget Circular A-76 (or any successor

administrative regulation or policy) until completion of the following:

(1) The Comptroller General of the United States—

(A) evaluates the accuracy of the most recently completed commercial activities study for the Niagara Falls Air Force Reserve Base, including an analysis of comparable situations at other military installations in the United States; and

(B) submits to the Secretary of the Air Force a report describing the results of such evaluation.

(2) The Secretary of the Air Force submits to the Committees on Armed Services of the Senate and House of Representatives a report containing—

(A) a copy of the report submitted by the Comptroller General;

(B) such comments on the report as the Secretary considers appropriate; and

(C) a determination by the Secretary regarding the desirability of converting commercial activities at the Niagara Falls Air Force Reserve Base to performance by private contractor.

(b) DEADLINE FOR SUBMISSION OF REPORT.—The report required by subsection (a)(2) shall be submitted not later than 60 days after the date of the enactment of this Act.

TITLE XII—MILITARY DRUG INTERDICTION AND COUNTER-DRUG ACTIVITIES

SEC. 1201. FUNDING FOR MILITARY DRUG INTERDICTION AND COUNTER-DRUG ACTIVITIES

(a) IN GENERAL.—(1) Of the amounts appropriated pursuant to this Act for the Department of Defense for fiscal year 1990, not more than $450,000,000 shall be available from the sources and in the amounts specified in paragraph (2) for carrying out the drug interdiction and counter-drug activities provided for in this title.

(2) The amounts and sources referred to in paragraph (1) are as follows:

(A) $182,000,000 of the amounts appropriated pursuant to title I for fiscal year 1990.

(B) $28,000,000 of the amounts appropriated pursuant to title II for fiscal year 1990.

(C) $235,000,000 of the amounts appropriated pursuant to title III for fiscal year 1990.

(D) $5,000,000 of the amounts appropriated pursuant to division B for land acquisition and construction.

(b) OPERATIONS OF THE DEPARTMENT OF DEFENSE.—Of the amount made available under subsection (a), $284,000,000 shall be available to carry out the mission of the Department of Defense relating to drug interdiction and counter-drug activities (other than purposes specified in subsections (c) through (g)).

(c) NATIONAL GUARD.—Of the amount made available under subsection (a), $70,000,000 shall be available to provide funds under section 1207 for the purpose of drug interdiction by, and counter-drug activities of, the National Guard.

(d) INTEGRATION OF C3I ASSETS.—Of the amount made available under subsection (a), $27,000,000 shall be available to carry out the activities of the Department of Defense under section 1204.

(e) RESEARCH AND DEVELOPMENT.—Of the amount made available under subsection (a), $28,000,000 shall be available to carry out research and development activities referred to in section 1205.

(f) CIVIL AIR PATROL.—Of the amount made available under subsection (a), $1,000,000 shall be available to support Civil Air Patrol activities under section 1209.

(g) OTHER ASSISTANCE.—Of the amount made available under subsection (a), $40,000,000 shall be available to carry out the authority of the Secretary under section 1212 to provide additional counter-drug support to civilian agencies.

SEC. 1202. DEPARTMENT OF DEFENSE AS LEAD AGENCY FOR THE DETECTION AND MONITORING OF AERIAL AND MARITIME TRANSIT OF ILLEGAL DRUGS

(a) FUNCTION OF DEPARTMENT OF DEFENSE.—(1) Chapter 3 of title 10, United States Code, is amended by inserting after section 123 the following new section:

"§ 124. Detection and monitoring of aerial and maritime transit of illegal drugs: Department of Defense to be lead agency

"(a) LEAD AGENCY.—The Department of Defense shall serve as the single lead agency of the Federal Government for the detection and monitoring of aerial and maritime transit of illegal drugs into the United States.

"(b) PERFORMANCE OF DETECTION AND MONITORING FUNCTION.—(1) To carry out subsection (a), Department of Defense personnel may operate equipment of the Department to intercept a vessel or an aircraft detected outside the land area of the United States for the purposes of—

"(A) identifying and communicating with that vessel or aircraft; and

"(B) directing that vessel or aircraft to go to a location designated by appropriate civilian officials.

"(2) In cases in which a vessel or an aircraft is detected outside the land area of the United States, Department of Defense personnel may begin or continue pursuit of that vessel or aircraft over the land area of the United States.

"(c) UNITED STATES DEFINED.—In this section, the term 'United States' means the land area of the several States and any territory, commonwealth, or possession of the United States.".

(2) The table of sections of such chapter is amended by inserting after the item relating to section 123 the following new item:

"124. Detection and monitoring of aerial and maritime transit of illegal drugs: Department of Defense to be lead agency.".

(b) CONFORMING REPEAL.—Section 1102 of the National Defense Authorization Act, Fiscal Year 1989 (Public Law 100-456; 102 Stat. 2042), is repealed. 10 USC 113 note.

SEC. 1203. BUDGET PROPOSALS RELATING TO DRUG INTERDICTION AND COUNTER-DRUG ACTIVITIES

The budget of the United States Government submitted to Congress under section 1105 of title 31, United States Code, for fiscal years 1991 and 1992 shall set forth separately the amount requested for the mission of the Department of Defense related to drug

interdiction and counter-drug activities in support of civilian agencies.

10 USC 124 note.

SEC. 1204. COMMUNICATIONS NETWORK

(a) INTEGRATION OF NETWORK.—(1) The Secretary of Defense shall integrate into an effective communications network the command, control, communications, and technical intelligence assets of the United States that are dedicated (in whole or in part) to the interdiction of illegal drugs into the United States.

(2) The Secretary shall carry out this subsection in consultation with the Director of National Drug Control Policy.

(b) CONFORMING REPEAL.—Section 1103 of the National Defense Authorization Act, Fiscal Year 1989 (Public Law 100-456; 102 Stat. 2042), is repealed.

10 USC 374 note.

10 USC 124 note.

SEC. 1205. RESEARCH AND DEVELOPMENT

The Secretary of Defense shall ensure that adequate research and development activities of the Department of Defense, including research and development activities of the Defense Advanced Research Projects Agency, are devoted to technologies designed to improve—

(1) the ability of the Department to carry out the detection and monitoring function of the Department under section 124 of title 10, United States Code, as added by section 1202; and

(2) the ability to detect illicit drugs and other dangerous and illegal substances that are concealed in containers.

10 USC 124 note.

SEC. 1206. TRAINING EXERCISES IN DRUG-INTERDICTION AREAS

(a) EXERCISES REQUIRED.—The Secretary of Defense shall direct that the armed forces, to the maximum extent practicable, shall conduct military training exercises (including training exercises conducted by the reserve components) in drug-interdiction areas.

(b) REPORT.—(1) Not later than February 1 of 1991 and 1992, the Secretary shall submit to Congress a report on the implementation of subsection (a) during the preceding fiscal year.

(2) The report shall include—

(A) a description of the exercises conducted in drug-interdiction areas and the effectiveness of those exercises in the national counter-drug effort; and

(B) a description of those additional actions that could be taken (and an assessment of the results of those actions) if additional funds were made available to the Department of Defense for additional military training exercises in drug-interdiction areas for the purpose of enhancing interdiction and deterrence of drug smuggling.

(c) DRUG-INTERDICTION AREAS DEFINED.—For purposes of this section, the term "drug-interdiction areas" includes land and sea areas in which, as determined by the Secretary, the smuggling of drugs into the United States occurs or is believed by the Secretary to have occurred.

SEC. 1207. DRUG INTERDICTION AND COUNTER-DRUG ACTIVITIES OF THE NATIONAL GUARD

(a) ASSISTANCE AUTHORIZED.—(1) Chapter 1 of title 32, United States Code, is amended by adding at the end the following new section:

"§ 112. Drug interdiction and counter-drug activities

"(a) FUNDING ASSISTANCE.—The Secretary of Defense may provide to the Governor of a State who submits a plan to the Secretary under subsection (b) sufficient funds for—

"(1) the pay, allowances, clothing, subsistence, gratuities, travel, and related expenses of personnel of the National Guard of that State used for—

"(A) the purpose of drug interdiction and counter-drug activities; and

"(B) the operation and maintenance of the equipment and facilities of the National Guard of that State used for that purpose; and

"(2) the procurement of services and leasing of equipment for the National Guard of that State used for the purpose of drug interdiction and counter-drug activities.

"(b) PLAN REQUIREMENTS.—A plan referred to in subsection (a) shall—

"(1) specify how personnel of the National Guard of that State are to be used in drug interdiction and counter-drug activities;

"(2) certify that those operations are to be conducted at a time when the personnel involved are not in Federal service; and

"(3) certify that participation by National Guard personnel in those operations is service in addition to annual training required under section 502 of this title.

"(c) EXAMINATION OF PLAN.—(1) Before funds are provided to the Governor of a State under this section, the Secretary of Defense shall examine the adequacy of the plan submitted by the Governor under subsection (b).

"(2) Except as provided in paragraph (3), the Secretary shall carry out paragraph (1) in consultation with—

"(A) the Attorney General of the United States in the case of a plan submitted for fiscal year 1990; and

"(B) the Director of National Drug Control Policy in the case of a plan submitted for subsequent fiscal years.

"(3) Paragraph (2) shall not apply if—

"(A) the Governor of a State submits a plan under subsection (b) that is substantially the same as a plan submitted for that State for a previous fiscal year; and

"(B) funds were provided to the State pursuant to such plan.

"(d) STATUTORY CONSTRUCTION.—Nothing in this section shall be construed as a limitation on the authority of any unit of the National Guard of a State, when such unit is not in Federal service, to perform law enforcement functions authorized to be performed by the National Guard by the laws of the State concerned.

"(e) EXCLUSION FROM END-STRENGTH COMPUTATION.—(1) Members of the National Guard on active duty or full-time National Guard duty for the purposes of administering this section shall not be counted toward the annual end strength authorized for reserves on active duty in support of the reserve components of the armed forces or toward the strengths authorized in sections 517 and 524 of title 10.

"(2) The Secretary of Defense shall submit to the Committees on Armed Services of the Senate and House of Representatives an annual report specifying for the period covered by the report the number of members of the National Guard excluded under paragraph (1) from the computation of end strengths. Reports.

"(f) DEFINITIONS.—For purposes of this section:

"(1) The term 'counter-drug activities' includes the use of National Guard personnel, while not in Federal service, in any law enforcement activities authorized by State and local law and requested by the Governor.

"(2) The term 'Governor of a State' means, in the case of the District of Columbia, the Commanding General of the National Guard of the District of Columbia

"(3) The term 'State' means each of the several States, the District of Columbia, the Commonwealth of Puerto Rico, or a territory or possession of the United States.".

(2) The table of sections at the beginning of such chapter is amended by adding at the end the following new item:

"112. Drug interdiction and counter-drug activities.".

(b) CONFORMING REPEAL.—Section 1105 of the National Defense Authorization Act, Fiscal Year 1989 (Public Law 100-456; 102 Stat. 2047), is repealed.

10 USC 374 note.

10 USC 372 note.

SEC. 1208. TRANSFER OF EXCESS PERSONAL PROPERTY

(a) TRANSFER AUTHORIZED.—(1) Notwithstanding any other provision of law and subject to subsection (b), the Secretary of Defense may transfer to Federal and State agencies personal property of the Department of Defense, including small arms and ammunition, that the Secretary determines is—

(A) suitable for use by such agencies in counter-drug activities; and

(B) excess to the needs of the Department of Defense.

(2) Personal property transferred under this section may be transferred without cost to the recipient agency.

(3) The Secretary shall carry out this section in consultation with the Attorney General and the Director of National Drug Control Policy.

(b) CONDITIONS FOR TRANSFER.—The Secretary may transfer personal property under this section only if—

(1) the property is drawn from existing stocks of the Department of Defense; and

(2) the transfer is made without the expenditure of any funds available to the Department of Defense for the procurement of defense equipment.

(c) APPLICATION.—The authority of the Secretary to transfer personal property under this section shall expire on September 30, 1992.

SEC. 1209. CIVIL AIR PATROL

To the extent funds are available under section 1201(f), the Secretary of Defense shall pay for expenses incurred by the Civil Air Patrol in conducting drug surveillance flights.

SEC. 1210. OPERATION OF EQUIPMENT USED TO TRANSPORT CIVILIAN LAW ENFORCEMENT PERSONNEL

Section 374(b)(2)(E) of title 10, United States Code, is amended by striking out ", the Attorney Gene l" and all that follows through "outside the land area of the Un.ed States" and inserting in lieu thereof "and the Attorney General (and the Secretary of State in the case of a law enforcement operation outside of the land area of the United States)".

SEC. 1211. RESTRICTION ON DIRECT PARTICIPATION BY MILITARY PERSONNEL

Section 375 of title 10, United States Code, is amended—

(1) by striking out "the provision of any support" and inserting in lieu thereof "any activity";

(2) by striking out "to any civilian law enforcement official"; and

(3) by striking out "a search and seizure, an arrest," and inserting in lieu thereof "a search, seizure, arrest,".

SEC. 1212. ADDITIONAL SUPPORT FOR COUNTER-DRUG ACTIVITIES

At the request of the head of a Federal agency with counter-drug responsibilities, the Secretary of Defense during fiscal year 1990 may provide support for the counter-drug activities of that agency as follows:

(1) Maintenance and repair of equipment that has been made available by the Department of Defense under chapter 18 of title 10, United States Code, in order to preserve the potential future utility of such equipment to the Department of Defense.

(2) Transportation of personnel, supplies, and equipment for purposes of facilitating a counter-drug operation.

(3) Establishment and operation of a base of operations for purposes of facilitating a counter-drug operation.

(4) Loan of National Guard equipment, subject to such minimum standards of care and maintenance and such minimum training and proficiency requirements for persons who are to use such equipment as the Secretary considers appropriate.

(5) Training of personnel.

SEC. 1213. REPORTS

(a) BY THE PRESIDENT.—Not later than April 1, 1990, the President shall submit to Congress a report— President of U.S.

(1) describing the progress made on implementation of the plan required by section 1103 of the National Defense Authorization Act, Fiscal Year 1989 (10 U.S.C. 374 note);

(2) containing an analysis of the feasibility of establishing a National Drug Operations Center for the integration, coordination, and control of all drug interdiction operations; and

(3) describing how intelligence activities relating to narcotics trafficking can be integrated, including—

(A) coordinating the collection and analysis of intelligence information;

(B) ensuring the dissemination of relevant intelligence information to officials with responsibility for narcotics policy and to agencies responsible for interdiction, eradication, law enforcement, and other counter-drug activities; and

(C) coordinating and controlling all intelligence activities relating to counter-drug activities.

(b) BY THE SECRETARY OF DEFENSE.—(1) Not later than February 1, 1990, the Secretary of Defense shall submit a report to Congress—

(A) on the specific drug-related research and development projects to be funded, and the planned allocation of funding for such projects, under section 1205;

(B) on the feasibility of detailing officers in the Judge Advocate General's Corps of the military departments to the Department of Justice to assist in the prosecution of drug cases in

areas in which there is a lack of sufficient prosecutorial resources;

(C) on the feasibility of increasing the use of the resources and personnel of the Special Operations Command in drug interdiction and counter-drug activities; and

(D) on the desirability and feasibility of assigning active-duty members of the Armed Forces, at the request of the Secretary of the Treasury and with the approval of the Secretary of Defense, to assist the United States Customs Service in the inspection of cargo, vehicles, vessels, and aircraft at points of entry into the United States.

In preparing the report required by this paragraph, the Secretary shall consult with the Director of National Drug Control Policy and other appropriate heads of agencies.

(2) Not later than April 1, 1990, the Secretary of Defense shall submit a report to Congress on—

(A) the feasibility of establishing aerial and maritime navigational corridors by which civilian aircraft and vessels may travel through drug interdiction areas, as defined in section 1206(c);

(B) the feasibility of requiring the submission of navigational plans for all civilian aircraft and vessels that will travel in such areas; and

(C) the funding considered necessary to implement a plan to carry out the matters referred to in subparagraphs (A) and (B).

In preparing the report required by this paragraph, the Secretary shall consult with the Secretary of Transportation and the Director of National Drug Control Policy.

(3) Not later than February 1 of 1990 and 1991, the Secretary of Defense shall submit to Congress a report on the drug interdiction and counter-drug activities of the Department of Defense under chapter 18, United States Code, and other applicable provisions of law during the preceding fiscal year. The report shall include—

(A) specific information as to the size, scope, and results of Department of Defense drug interdiction operations;

(B) specific information on the nature and terms of interagency agreements with other agencies relating to drug interdiction; and

(C) any recommendations for additional legislation that the Secretary determines would assist in furthering the ability of the Department to perform its mission under that chapter or to assist other agencies.

SEC. 1214. SENSE OF CONGRESS ON NATIONAL NARCOTICS BORDER INTERDICTION SYSTEM

(a) FINDINGS.—Congress finds the following:

(1) The Anti-Drug Abuse Act of 1988 (Public Law 100-690) terminated the National Narcotics Border Interdiction System (NNBIS).

(2) The National Narcotics Border Interdiction System provided valuable information and support to State and local law enforcement agencies involved in drug interdiction activities.

(b) SENSE OF CONGRESS.—In light of the findings specified in subsection (a), it is the sense of Congress that the cooperation that existed between State and local law enforcement officials and the Federal agencies participating in the National Narcotics Border

Interdiction System should, to the extent possible, be continued and enhanced by the President.

SEC. 1215. COOPERATIVE EFFORTS AGAINST ILLEGAL DRUGS

(a) AMENDMENT TO THE CONTROLLED SUBSTANCES ACT.—Section 511(e)(3)(B) of the Controlled Substances Act (21 U.S.C. 881(e)(3)(B)), as added by section 6077(a) of the Asset Forfeiture Amendments Act of 1988 (Public Law 100-690; 102 Stat. 4324), is amended to read as follows:

"(B) will serve to encourage further cooperation between the recipient State or local agency and Federal law enforcement agencies.".

(b) EFFECTIVE DATE.—The amendment made by subsection (a) shall take effect as of October 1, 1989. 21 USC 881 note.

SEC. 1216. TECHNICAL AND CLERICAL AMENDMENTS RELATING TO MILITARY SUPPORT FOR CIVILIAN LAW ENFORCEMENT AGENCIES

(a) CHAPTER DESIGNATION.—The chapter following chapter 17 of title 10, United States Code (relating to military support for civilian law enforcement agencies), is redesignated as chapter 18.

(b) REFERENCE TO TARIFF SCHEDULES.—Section 374(b)(4) of such title is amended by striking out "general headnote 2 of the Tariff Schedules of the United States" in subparagraph (A)(iii) and inserting in lieu thereof "general note 2 of the Harmonized Tariff Schedule of the United States".

(c) CROSS-REFERENCE AMENDMENT.—Section 374(c) of such title is amended by striking out "paragraph (2)" and inserting in lieu thereof "subsection (b)(2)".

TITLE XIII—MILITARY APPELLATE PROCEDURES

SEC. 1301. COURT OF MILITARY APPEALS

(a) REVIEW BY THE COURT UNDER ARTICLE 67.—Section 867 (article 67) of title 10, United States Code, is amended—

(1) by striking out subsections (a), (g), (h), and (i); and

(2) by redesignating subsections (b), (c), (d), (e), and (f) as subsections (a), (b), (c), (d), and (e) respectively.

(b) RESTATEMENT OF CERTIORARI PROVISION.—Subchapter IX of chapter 47 of title 10, United States Code, is amended by inserting after section 867 (article 67) the following new section (article):

"§ 867a. Art. 67a. Review by the Supreme Court

"(a) Decisions of the United States Court of Military Appeals are subject to review by the Supreme Court by writ of certiorari as provided in section 1259 of title 28. The Supreme Court may not review by a writ of certiorari under this section any action of the Court of Military Appeals in refusing to grant a petition for review.

"(b) The accused may petition the Supreme Court for a writ of certiorari without prepayment of fees and costs or security therefor and without filing the affidavit required by section 1915(a) of title 28.".

(c) RESTATEMENT AND REVISION OF COMA CHARTER.—Chapter 47 of such title is amended by adding at the end the following new subchapter:

"SUBCHAPTER XI—COURT OF MILITARY APPEALS

"Sec. Art.
"941. 141. Status.
"942. 142. Judges.
"943. 143. Organization and employees.
"944. 144. Procedure.
"945. 145. Annuities for judges and survivors.
"946. 146. Code committee.

"§ 941. Art. 141. Status

"There is a court of record known as the United States Court of Military Appeals. The court is established under article I of the Constitution. The court is located for administrative purposes only in the Department of Defense.

"§ 942. Art. 142. Judges

"(a) NUMBER.—The United States Court of Military Appeals consists of five judges.

"(b) APPOINTMENT; QUALIFICATION.—(1) Each judge of the court shall be appointed from civil life by the President, by and with the advice and consent of the Senate, for a specified term determined under paragraph (2). A judge may serve as a senior judge as provided in subsection (e).

"(2) The term of a judge shall expire as follows:

"(A) In the case of a judge who is appointed after March 31 and before October 1 of any year, the term shall expire on September 30 of the year in which the fifteenth anniversary of the appointment occurs.

"(B) In the case of a judge who is appointed after September 30 of any year and before April 1 of the following year, the term shall expire fifteen years after such September 30.

"(3) Not more than three of the judges of the court may be appointed from the same political party, and no person may be appointed to be a judge of the court unless the person is a member of the bar of a Federal court or the highest court of a State.

"(c) REMOVAL.—Judges of the court may be removed from office by the President, upon notice and hearing, for—

"(1) neglect of duty;

"(2) misconduct; or

"(3) mental or physical disability.

A judge may not be removed by the President for any other cause.

"(d) PAY AND ALLOWANCES.—Each judge of the court is entitled to the same salary and travel allowances as are, and from time to time may be, provided for judges of the United States Courts of Appeals.

"(e) SENIOR JUDGES.—(1) A former judge of the court who is receiving retired pay or an annuity under section 945 of this title (article 145) or under subchapter III of chapter 83 or chapter 84 of title 5 shall be a senior judge.

"(2)(A) The chief judge of the court may call upon a senior judge of the court, with the consent of the senior judge, to perform judicial duties with the court—

"(i) during a period a judge of the court is unable to perform his duties because of illness or other disability;

"(ii) during a period in which a position of judge of the court is vacant; or

"(iii) in any case in which a judge of the court recuses himself.

"(B) A senior judge shall be paid for each day on which he performs judicial duties with the court an amount equal to the daily equivalent of the annual rate of pay provided for a judge of the court. Such pay shall be in lieu of retired pay and in lieu of an

annuity under section 945 of this title (article 145), subchapter III of chapter 83 or subchapter II of chapter 84 of title 5, or any other retirement system for employees of the Federal Government.

"(3) A senior judge, while performing duties referred to in paragraph (2), shall be provided with such office space and staff assistance as the chief judge considers appropriate and shall be entitled to the per diem, travel allowances, and other allowances provided for judges of the court.

"(4) A senior judge shall be considered to be an officer or employee of the United States with respect to his status as a senior judge, but only during periods the senior judge is performing duties referred to in paragraph (2). For the purposes of section 205 of title 18, a senior judge shall be considered to be a special government employee during such periods. Any provision of law that prohibits or limits the political or business activities of an employee of the United States shall apply to a senior judge only during such periods.

"(5) The court shall prescribe rules for the use and conduct of senior judges of the court. The chief judge of the court shall transmit such rules, and any amendments to such rules, to the Committees on Armed Services of the Senate and the House of Representatives not later than 15 days after the issuance of such rules or amendments, as the case may be.

"(6) For purposes of subchapter III of chapter 83 of title 5 (relating to the Civil Service Retirement and Disability System) and chapter 84 of such title (relating to the Federal Employees' Retirement System) and for purposes of any other Federal Government retirement system for employees of the Federal Government—

"(A) a period during which a senior judge performs duties referred to in paragraph (2) shall not be considered creditable service;

"(B) no amount shall be withheld from the pay of a senior judge as a retirement contribution under section 8334, 8343, 8422, or 8432 of title 5 or under any other such retirement system for any period during which the senior judge performs duties referred to in paragraph (2);

"(C) no contribution shall be made by the Federal Government to any retirement system with respect to a senior judge for any period during which the senior judge performs duties referred to in paragraph (2); and

"(D) a senior judge shall not be considered to be a reemployed annuitant for any period during which the senior judge performs duties referred to in paragraph (2).

"(f) SERVICE OF ARTICLE III JUDGES.—(1) The Chief Justice of the United States, upon the request of the chief judge of the court, may designate a judge of a United States court of appeals or of a United States district court to perform the duties of judge of the United States Court of Military Appeals—

"(A) during a period a judge of the court is unable to perform his duties because of illness or other disability; or

"(B) in any case in which a judge of the court recuses himself.

"(2) A designation under paragraph (1) may be made only with the consent of the designated judge and the concurrence of the chief judge of the court of appeals or district court concerned.

"(3) Per diem, travel allowances, and other allowances paid to the designated judge in connection with the performance of duties for the court shall be paid from funds available for the payment of per diem and such allowances for judges of the court.

"(g) EFFECT OF VACANCY ON COURT.—A vacancy on the court does not impair the right of the remaining judges to exercise the powers of the court.

"§ 943. Art. 143. Organization and employees

President of U.S.

"(a) CHIEF JUDGE.—The President shall designate from time to time one of the judges of the United States Court of Military Appeals to be chief judge of the court.

"(b) PRECEDENCE OF JUDGES.—The chief judge of the court shall have precedence and preside at any session that he attends. The other judges shall have precedence and preside according to the seniority of their original commissions. Judges whose commissions bear the same date shall have precedence according to seniority in age.

"(c) STATUS OF ATTORNEY POSITIONS.—(1) Attorney positions of employment under the Court of Military Appeals are excepted from the competitive service. Appointments to such positions shall be made by the court, without the concurrence of any other officer or employee of the executive branch, in the same manner as appointments are made to other executive branch positions of a confidential or policy-determining character for which it is not practicable to examine or to hold a competitive examination. Such positions shall not be counted as positions of that character for purposes of any limitation on the number of positions of that character provided in law.

"(2) In making appointments to the positions described in paragraph (1), preference shall be given, among equally qualified persons, to persons who are preference eligibles (as defined in section 2108(3) of title 5).

"§ 944. Art. 144. Procedure

"The United States Court of Military Appeals may prescribe its rules of procedure and may determine the number of judges required to constitute a quorum.

"§ 945. Art. 145. Annuities for judges and survivors

"(a) RETIREMENT ANNUITIES FOR JUDGES.—(1) A person who has completed a term of service for which he was appointed as a judge of the United States Court of Military Appeals is eligible for an annuity under this section upon separation from civilian service in the Federal Government.

"(2) A person who is eligible for an annuity under this section shall be paid that annuity if, at the time he becomes eligible to receive that annuity, he elects to receive that annuity in lieu of any other annuity for which he may be eligible at the time of such election (whether an immediate or a deferred annuity) under subchapter III of chapter 83 or subchapter II of chapter 84 of title 5 or any other retirement system for civilian employees of the Federal Government. Such an election may not be revoked.

"(3)(A) The Secretary of Defense shall notify the Director of the Office of Personnel Management whenever an election under paragraph (2) is made affecting any right or interest under subchapter III of chapter 83 or subchapter II of chapter 84 of title 5 based on service as a judge of the United States Court of Military Appeals.

"(B) Upon receiving any notification under subparagraph (A) in the case of a person making an election under paragraph (2), the Director shall determine the amount of the person's lump-sum

credit under subchapter III of chapter 83 or subchapter II of chapter 84 of title 5, as applicable, and shall request the Secretary of the Treasury to transfer such amount from the Civil Service Retirement and Disability Fund to the Department of Defense Military Retirement Fund. The Secretary of the Treasury shall make any transfer so requested.

"(C) In determining the amount of a lump-sum credit under section 8331(8) of title 5 for purposes of this paragraph—

"(i) interest shall be computed using the rates under section 8334(e)(3) of such title; and

"(ii) the completion of 5 years of civilian service (or longer) shall not be a basis for excluding interest.

"(b) AMOUNT OF ANNUITY.—The annuity payable under this section to a person who makes an election under subsection (a)(2) is 80 percent of the rate of pay for a judge in active service on the United States Court of Military Appeals as of the date on which the person is separated from civilian service.

"(c) RELATION TO THRIFT SAVINGS PLAN.—Nothing in this section affects any right of any person to participate in the thrift savings plan under section 8351 of title 5 or subchapter III of chapter 84 of such title.

"(d) SURVIVOR ANNUITIES.—The Secretary of Defense shall prescribe by regulation a program to provide annuities for survivors and former spouses of persons receiving annuities under this section by reason of elections made by such persons under subsection (a)(2). That program shall, to the maximum extent practicable, provide benefits and establish terms and conditions that are similar to those provided under survivor and former spouse annuity programs under other retirement systems for civilian employees of the Federal Government. The program may include provisions for the reduction in the annuity paid the person as a condition for the survivor annuity. An election by a judge (including a senior judge) or former judge to receive an annuity under this section terminates any right or interest which any other individual may have to a survivor annuity under any other retirement system for civilian employees of the Federal Government based on the service of that judge or former judge as a civilian officer or employee of the Federal Government (except with respect to an election under subsection (g)(1)(B)). Regulations.

"(e) COST-OF-LIVING INCREASES.—The Secretary of Defense shall periodically increase annuities and survivor annuities paid under this section in order to take account of changes in the cost of living. The Secretary shall prescribe by regulation procedures for increases in annuities under this section. Such system shall, to the maximum extent appropriate, provide cost-of-living adjustments that are similar to those that are provided under other retirement systems for civilian employees of the Federal Government. Regulations.

"(f) DUAL COMPENSATION.—A person who is receiving an annuity under this section by reason of service as a judge of the court and who is appointed to a position in the Federal Government shall, during the period of such person's service in such position, be entitled to receive only the annuity under this section or the pay for that position, whichever is higher.

"(g) ELECTION OF JUDICIAL RETIREMENT BENEFITS.—(1) A person who is receiving an annuity under this section by reason of service as a judge of the court and who later is appointed as a justice or judge of the United States to hold office during good behavior and who retires from that office, or from regular active service in that

office, shall be paid either (A) the annuity under this section, or (B) the annuity or salary to which he is entitled by reason of his service as such a justice or judge of the United States, as determined by an election by that person at the time of his retirement from the office, or from regular active service in the office, of justice or judge of the United States. Such an election may not be revoked.

"(2) An election by a person to be paid an annuity or salary pursuant to paragraph (1)(B) terminates (A) any election previously made by such person to provide a survivor annuity pursuant to subsection (d), and (B) any right of any other individual to receive a survivor annuity pursuant to subsection (d) on the basis of the service of that person.

"(h) SOURCE OF PAYMENT OF ANNUITIES.—Annuities and survivor annuities paid under this section shall be paid out of the Department of Defense Military Retirement Fund.

"§ 946. Art. 146. Code committee

"(a) ANNUAL SURVEY.—A committee shall meet at least annually and shall make an annual comprehensive survey of the operation of this chapter.

"(b) COMPOSITION OF COMMITTEE.—The committee shall consist of—

"(1) the judges of the United States Court of Military Appeals;

"(2) the Judge Advocates General of the Army, Navy, and Air Force, the Chief Counsel of the Coast Guard, and the Staff Judge Advocate to the Commandant of the Marine Corps; and

"(3) two members of the public appointed by the Secretary of Defense.

"(c) REPORTS.—(1) After each such survey, the committee shall submit a report—

"(A) to the Committees on Armed Services of the Senate and House of Representatives; and

"(B) to the Secretary of Defense, the Secretaries of the military departments, and the Secretary of Transportation.

"(2) Each report under paragraph (1) shall include the following:

"(A) Information on the number and status of pending cases.

"(B) Any recommendation of the committee relating to—

"(i) uniformity of policies as to sentences;

"(ii) amendments to this chapter; and

"(iii) any other matter the committee considers appropriate.

"(d) QUALIFICATIONS AND TERMS OF APPOINTED MEMBERS.—Each member of the committee appointed by the Secretary of Defense under subsection (b)(3) shall be a recognized authority in military justice or criminal law. Each such member shall be appointed for a term of three years.

"(e) APPLICABILITY OF FEDERAL ADVISORY COMMITTEE ACT.—The Federal Advisory Committee Act (5 U.S.C. App. I) shall not apply to the committee.".

10 USC 942 note.

(d) TRANSITION FROM THREE-JUDGE COURT TO FIVE-JUDGE COURT.—(1) Effective during the period before October 1, 1990—

(A) the number of members of the United States Court of Military Appeals shall (notwithstanding subsection (a) of section 942 of title 10, United States Code, as enacted by subsection (c)) be three; and

(B) the maximum number of members of the court who may be appointed from the same political party shall (notwithstanding subsection (b)(3) of section 942) be two.

(2) In the application of paragraph (2) of section 942(b) of title 10, United States Code (as enacted by subsection (c)) to the judges who are first appointed to the two new positions of the court created as of October 1, 1990—

(A) with respect to one such judge (as designated by the President at the time of appointment), the anniversary referred to in subparagraph (A) of that paragraph shall be treated as being the seventh anniversary and the number of years referred to in subparagraph (B) of that paragraph shall be treated as being seven; and

(B) with respect to the other such judge (as designated by the President at the time of appointment), the anniversary referred to in subparagraph (A) of that paragraph shall be treated as being the thirteenth anniversary and the number of years referred to in subparagraph (B) of that paragraph shall be treated as being thirteen.

10 USC 942 note.

(e) TRANSITION RULES RELATING TO RETIREMENT OF NEW JUDGES.—(1) Except as otherwise provided in paragraphs (2) and (3), each judge to whom subsection (d)(2) applies shall be eligible for an annuity as provided in section 945 of title 10, United States Code, as enacted by subsection (c).

(2) The annuity of a judge referred to in paragraph (1) is computed under subsection (b) of such section 945 only if the judge—

(A) completes the term of service for which he is first appointed;

(B) is reappointed as a judge of the United States Court of Military Appeals at any time after the completion of such term of service;

(C) is separated from civilian service in the Federal Government after completing a total of 15 years as a judge of such court; and

(D) elects to receive an annuity under such section in accordance with subsection (a)(2) of such section.

(3) In the case of a judge referred to in paragraph (1) who is separated from civilian service after completing the term of service for which he is first appointed as a judge of the United States Court of Military Appeals and before completing a total of 15 years as a judge of such court, the annuity of such judge (if elected in accordance with section 945(a)(2) of title 10, United States Code) shall be 1/15 of the amount computed under subsection (b) of such section times the number of years (including any fraction thereof) of such judge's service as a judge of the court.

10 USC 942 note.

(f) APPLICABILITY OF AMENDED RETIREMENT PROVISIONS.—Except as otherwise provided in subsections (c) and (d), section 945 of title 10, United States Code, as enacted by subsection (c), applies with respect to judges of the United States Court of Military Appeals whose terms of service on such court end after September 28, 1988, and to the survivors of such judges.

10 USC 942 note.

(g) TERMS OF CURRENT JUDGES.—Section 942(b) of title 10, United States Code, as enacted by subsection (c), shall not apply to the term of office of a judge of the United States Court of Military Appeals serving on such court on the date of the enactment of this Act. The term of office of such a judge shall expire on the later of (A) the date the term of such judge would have expired under section 867(a)(1) of

title 10, United States Code, as in effect on the day before such date of enactment, or (B) September 30 of the year in which the term of such judge would have expired under such section 867(a)(1).

10 USC 942 note.

(h) CIVIL SERVICE STATUS OF CURRENT EMPLOYEES.—Section 943(c) of title 10, United States Code, as enacted by subsection (c), shall not be applied to change the civil service status of any attorney who is an employee of the United States Court of Military Appeals on the day before the date of the enactment of this Act.

(i) TERMINATION OF AUTHORITY RELATING TO SERVICE OF ARTICLE III JUDGES AFTER 5 YEARS.—The authority of the Chief Justice of the United States under section 942(f) of title 10, United States Code, as enacted by subsection (c), shall terminate on September 30, 1995.

SEC. 1302. APPELLATE REVIEW OF ARTICLE 69 ACTIONS

(a) REVIEW.—Section 869 (article 69) of title 10, United States Code, is amended—

(1) in subsection (a), by striking out the third sentence; and

(2) by adding at the end the following:

"(d) A Court of Military Review may review, under section 866 of this title (article 66)—

"(1) any court-martial case which (A) is subject to action by the Judge Advocate General under this section, and (B) is sent to the Court of Military Review by order of the Judge Advocate General; and

"(2) any action taken by the Judge Advocate General under this section in such case.

"(e) Notwithstanding section 866 of this title (article 66), in any case reviewed by a Court of Military Review under this section, the Court may take action only with respect to matters of law.".

10 USC 869 note.

(b) EFFECTIVE DATE.—Subsection (e) of section 869 of title 10, United States Code, as added by subsection (a), shall apply with respect to cases in which a finding of guilty is adjudged by a general court-martial after the date of the enactment of this Act.

SEC. 1303. INVESTIGATION OF JUDICIAL MISCONDUCT

Subchapter I of chapter 47 of title 10, United States Code, is amended by adding at the end the following new section:

"§ 806a. Art. 6a. Investigation and disposition of matters pertaining to the fitness of military judges

"(a) The President shall prescribe procedures for the investigation and disposition of charges, allegations, or information pertaining to the fitness of a military judge or military appellate judge to perform the duties of the judge's position. To the extent practicable, the procedures shall be uniform for all armed forces.

"(b) The President shall transmit a copy of the procedures prescribed pursuant to this section to the Committees on Armed Services of the Senate and House of Representatives.".

SEC. 1304. TECHNICAL AND CONFORMING AMENDMENTS

(a) CLERICAL AMENDMENTS.—(1) The table of subchapters at the beginning of chapter 47 of title 10, United States Code, is amended by adding at the end the following new item:

"XII. Court of Military Appeals ..... 941 141".

(2) The table of sections at the beginning of subchapter I of such chapter is amended by adding at the end the following new item:

"806a. 6a. Investigation and disposition of matters pertaining to the fitness of military judges.".

(b) CONFORMING AMENDMENTS.—(1) Section 869(a) (article 69(a)) of title 10, United States Code, is amended by striking out "section 867(b)(2) of this title (article 67(b)(2))" in the third sentence and inserting in lieu thereof "section 867(a)(2) of this title (article 67(a)(2))".

(2) Section 8337(a) of title 5, United States Code, is amended by striking out "section 867(a)(2)" in the fourth sentence and inserting in lieu thereof "section 942(c)".

(3) Section 1259 of title 28, United States Code, is amended by striking out "section 867(b)(1)", "section 867(b)(2)", and "section 867(b)(3)" and inserting in lieu thereof "section 867(a)(1)", "section 867(a)(2)", and "section 867(a)(3)", respectively.

TITLE XIV—MILITARY SURVIVOR BENEFIT PLAN

Military Survivor Benefits Improvement Act of 1989. 10 USC 1447 note.

SEC. 1401. SHORT TITLE

This title may be cited as the "Military Survivor Benefits Improvement Act of 1989".

SEC. 1402. REVISED PREMIUM COMPUTATION FOR SURVIVOR BENEFIT PLAN ANNUITIES

(a) REVISION IN RETIRED PAY REDUCTION.—Subsection (a) of section 1452 of title 10, United States Code, is amended by striking out the matter preceding paragraph (2) and inserting in lieu thereof the following:

"(a) SPOUSE AND FORMER SPOUSE ANNUITIES.—

"(1) REQUIRED REDUCTION IN RETIRED PAY.—Except as provided in subsection (b), the retired pay of a participant in the Plan who is providing spouse coverage (as described in paragraph (5)) shall be reduced as follows:

"(A) STANDARD ANNUITY.—If the annuity coverage being provided is a standard annuity, the reduction shall be as follows:

"(i) DISABILITY AND NONREGULAR SERVICE RETIREES.—In the case of a person who is entitled to retired pay under chapter 61 or chapter 67 of this title, the reduction shall be in whichever of the alternative reduction amounts is more favorable to that person.

"(ii) MEMBERS AS OF ENACTMENT OF FLAT-RATE REDUCTION.—In the case of a person who first became a member of a uniformed service before March 1, 1990, the reduction shall be in whichever of the alternative reduction amounts is more favorable to that person.

"(iii) NEW ENTRANTS AFTER ENACTMENT OF FLAT-RATE REDUCTION.—In the case of a person who first becomes a member of a uniformed service on or after March 1, 1990, and who is entitled to retired pay under a provision of law other than chapter 61 or chapter 67 of this title, the reduction shall be in an amount equal to 6½ percent of the base amount.

"(iv) ALTERNATIVE REDUCTION AMOUNTS.—For purposes of clauses (i) and (ii), the alternative reduction amounts are the following:

"(I) An amount equal to 6½ percent of the base amount.

"(II) An amount equal to 2½ percent of the first $337 (as adjusted after November 1, 1989, under paragraph (4)) of the base amount plus 10 percent of the remainder of the base amount.

"(B) RESERVE-COMPONENT ANNUITY.—If the annuity coverage being provided is a reserve-component annuity, the reduction shall be in whichever of the following amounts is more favorable to that person:

"(i) An amount equal to 6½ percent of the base amount plus an amount determined in accordance with regulations prescribed by the Secretary of Defense as a premium for the additional coverage provided through reserve-component annuity coverage under the Plan.

"(ii) An amount equal to 2½ percent of the first $337 (as adjusted after November 1, 1989, under paragraph (4)) of the base amount plus 10 percent of the remainder of the base amount plus an amount determined in accordance with regulations prescribed by the Secretary of Defense as a premium for the additional coverage provided through reserve-component annuity coverage under the Plan.".

(b) PERSONS PROVIDING SPOUSE COVERAGE.—Such subsection is further amended by adding at the end the following new paragraph:

"(5) For the purposes of paragraph (1), a participant in the Plan who is providing spouse coverage is a participant who—

"(A) has (i) a spouse or former spouse, or (ii) a spouse or former spouse and a dependent child; and

"(B) has not elected to provide an annuity to a person designated by him under section 1448(b)(1) of this title or, having made such an election, has changed his election in favor of his spouse under section 1450(f) of this title.".

(c) CONFORMING AMENDMENT.—Subsection (a)(4) of such section is amended by striking out "amount under paragraph (1)(A)" in subparagraphs (A) and (B) and inserting in lieu thereof "amounts under paragraph (1)".

10 USC 1452 note.

(d) RECOMPUTATION OF SBP PREMIUM FOR CURRENT PARTICIPANTS.—

(1) RECOMPUTATION.—The Secretary concerned shall recompute the SBP premium of persons described in paragraph (2). Any such recomputation shall take effect on March 1, 1990.

(2) PERSONS COVERED.—A person referred to in paragraph (1) as described in this paragraph is a person who on March 1, 1990—

(A) is entitled to retired pay;

(B) is providing spouse coverage (as described in paragraph (5) of section 1452 of title 10, United States Code, as added by subsection (b)); and

(C) is subject to an SBP premium in excess of 6½ percent of the base amount of that person under the Survivor Benefit Plan.

(3) AMOUNT OF RECOMPUTED PREMIUM.—The amount of an SBP premium recomputed under this subsection shall be 6½ percent of the base amount under the Survivor Benefit Plan of the person whose premium is recomputed.

(4) SBP PREMIUM DEFINED.—For purposes of this subsection, the term "SBP premium" means a reduction in retired pay under section 1452 of title 10, United States Code.

SEC. 1403. CORRECTION OF ANNUITY COMPUTATION FOR SURVIVORS OF CERTAIN RETIREMENT-ELIGIBLE OFFICERS DYING WHILE ON ACTIVE DUTY

(a) ANNUITY COMPUTATION BASED ON FINAL BASIC PAY.—Paragraph (3) of section 1451(c) of title 10, United States Code, is amended to read as follows:

"(3) In the case of an annuity provided by reason of the service of a member described in section 1448(d)(1)(B) or 1448(d)(1)(C) of this title who first became a member of a uniformed service before September 8, 1980, the retired pay to which the member would have been entitled when he died shall be determined for purposes of paragraph (1) based upon the rate of basic pay in effect at the time of death for the grade in which the member was serving at the time of death, unless (as determined by the Secretary concerned) the member would have been entitled to be retired in a higher grade.".

(b) ADJUSTMENT OF ANNUITIES ALREADY IN EFFECT.— 10 USC 1451 note.

(1) RECOMPUTATION.—The Secretary concerned shall recompute the annuity of any person who on the effective date specified in subsection (d) is entitled to an annuity under the Survivor Benefit Plan by reason of eligibility described in section 1448(d)(1)(B) or 1448(d)(1)(C) of title 10, United States Code, and who is further described in subsection (c).

(2) AMOUNT OF RECOMPUTED ANNUITIES.—The amount of the annuity as so recomputed shall be the amount that would be in effect for that annuity on the effective date specified in subsection (d) if the annuity had originally been computed subject to the provisions of paragraph (3) of section 1451(c) of title 10, United States Code, as amended by subsection (a).

(c) PERSONS ELIGIBLE FOR RECOMPUTATION.—A person is eligible to have an annuity under the Survivor Benefit Plan recomputed under subsection (b) if—

(1) the annuity is based upon the service of a member of the uniformed services who died on active duty during the period beginning on September 21, 1972, and ending on the effective date specified in subsection (d); and

(2) the retired pay of that member for the purposes of determining the amount of the annuity under the Survivor Benefit Plan was computed using a rate of basic pay lower than the rate of basic pay in effect at the time of death for the grade in which the member was serving at the time of death.

(d) EFFECTIVE DATE.—An annuity recomputed under subsection (b) shall take effect as so recomputed on March 1, 1990.

SEC. 1404. PROGRAM TO PROVIDE SUPPLEMENTAL SPOUSE ANNUITY FOR MILITARY RETIREES

(a) ESTABLISHMENT OF PROGRAM.—(1) Effective on October 1, 1991, chapter 73 of title 10, United States Code, is amended by adding at the end the following new subchapter: Effective date.

"SUBCHAPTER III—SUPPLEMENTAL SURVIVOR BENEFIT PLAN

"Sec.

"1456. Supplemental spouse coverage: establishment of plan; definitions.
"1457. Supplemental spouse coverage: payment of annuity; amount.
"1458. Supplemental spouse coverage: eligible participants; elections of coverage.
"1459. Former spouse coverage: special rules.

"1460. Supplemental spouse coverage: reductions in retired pay.
"1460a. Incorporation of certain administrative provisions.
"1460b. Regulations.

"§ 1456. Supplemental spouse coverage: establishment of plan; definitions

"(a) ESTABLISHMENT OF SUPPLEMENTAL SURVIVOR BENEFIT PLAN.—

"(1) PLAN.—The Secretary of Defense shall carry out a program in accordance with this subchapter to enable participants in the Survivor Benefit Plan who are providing coverage for a spouse or former spouse beneficiary under that Plan to also provide a supplemental annuity for that spouse or former spouse beginning when the participant dies or when the spouse or former spouse becomes 62 years of age, whichever is later, in order to offset the effects of the two-tier annuity computation under the Survivor Benefit Plan.

"(2) NAME OF PLAN.—The program under this subchapter shall be known as the Supplemental Survivor Benefit Plan.

"(b) DEFINITIONS.—

"(1) INCORPORATION OF DEFINITIONS APPLICABLE TO SURVIVOR BENEFIT PLAN.—The definitions in section 1447 of this title apply in this subchapter.

"(2) SUPPLEMENTAL SPOUSE ANNUITY DEFINED.—In this subchapter, the term 'supplemental spouse annuity' means an annuity provided to a spouse or former spouse under this subchapter.

"§ 1457. Supplemental spouse coverage: payment of annuity; amount

"(a) COMMENCEMENT OF ANNUITY.—A supplemental spouse annuity commences on the later of—

"(1) the day on which an annuity under the Survivor Benefit Plan becomes payable to the beneficiary; or

"(2) the first day of the first month after the month in which the beneficiary becomes 62 years of age.

"(b) AMOUNT OF ANNUITY FOR BENEFICIARY OF PERSON PROVIDING STANDARD ANNUITY UNDER SBP.—In the case of a person providing a standard annuity for a spouse or former spouse beneficiary under the Survivor Benefit Plan and providing a supplemental spouse annuity for that beneficiary under this subchapter, the monthly annuity payable to the beneficiary under this subchapter shall be the amount equal to 20 percent of the base amount under the Survivor Benefit Plan of the person providing the annuity. The annuity shall be computed as of the date of the death of the person providing the annuity, notwithstanding that the annuity is not payable at that time by reason of subsection (a).

"(c) AMOUNT OF ANNUITY FOR BENEFICIARY OF PERSON PROVIDING RESERVE-COMPONENT ANNUITY UNDER SBP.—In the case of a person providing a reserve-component annuity for a spouse or former spouse beneficiary under the Survivor Benefit Plan and providing a supplemental spouse annuity for that beneficiary under this subchapter, the monthly annuity payable to that beneficiary under this subchapter shall be determined as follows:

"(1) BENEFICIARY INITIALLY 62 YEARS OF AGE OR OLDER.—If the beneficiary is 62 years of age or older when the beneficiary becomes entitled to the reserve-component annuity under the

Survivor Benefit Plan, the monthly amount of the supplemental spouse annuity is the difference between—

"(A) the amount of the reserve-component annuity under the Survivor Benefit Plan to which the beneficiary would be entitled if that beneficiary were under 62 years of age (as computed under section 1451(a)(2)(A) of this title); and

"(B) the amount of the reserve-component annuity to which the beneficiary is entitled (as computed under section 1451(a)(2)(B) of this title).

"(2) BENEFICIARY INITIALLY UNDER 62 YEARS OF AGE.—If the beneficiary is under 62 years of age when the beneficiary becomes entitled to the reserve-component annuity under the Survivor Benefit Plan, the monthly amount of the supplemental spouse annuity of that beneficiary (commencing on the date specified in subsection (a)(2)) is the amount by which the beneficiary's annuity under the Survivor Benefit Plan is reduced (on the same day) under section 1451(d) of this title.

"(3) EXCLUSION OF DIC OFFSET.—Computations under paragraphs (1) and (2) shall be made without regard to any reduction required under section 1450(c) of this title (or any other provision of law) with respect to the receipt of dependency and indemnity compensation under section 411 of title 38.

"(d) ADJUSTMENTS IN ANNUITIES.—

"(1) PERIODIC ADJUSTMENTS (COLAS).—Whenever annuities under the Survivor Benefit Plan are increased under section 1451(g)(1) of this title (or any other provision of law) or recomputed under section 1451(i) of this title, each annuity under this subchapter shall be increased or recomputed at the same time. The increase shall, in the case of any such annuity, be by the same percent as the percent by which the annuity of that beneficiary is increased or recomputed under the Survivor Benefit Plan.

"(2) ROUNDING DOWN.—The monthly amount of an annuity payable under this subchapter, if not a multiple of $1, shall be rounded to the next lower multiple of $1.

"(e) TERMINATION OF ANNUITY.—A supplemental spouse annuity terminates effective as of the first day of the month in which the beneficiary dies or otherwise becomes ineligible to continue to receive an annuity under the Survivor Benefit Plan.

"§ 1458. Supplemental spouse coverage: eligible participants; elections of coverage

"(a) COVERAGE.—

"(1) IN GENERAL.—A person who provides an annuity for a spouse or former spouse under the Survivor Benefit Plan may elect in accordance with this section to provide a supplemental spouse annuity for that spouse or former spouse.

"(2) COVERAGE CONTINGENT ON CONCURRENT SBP COVERAGE.—When a person providing a supplemental spouse annuity under this subchapter ceases to be a participant under the Survivor Benefit Plan, that person's coverage under this subchapter automatically terminates.

"(3) ELECTIONS TO BE VOLUNTARY.—A person may not be ordered or required to elect (or to enter into an agreement to elect) to provide a spouse or former spouse with a supplemental spouse annuity under this subchapter. Except as provided in section 1459(b) of this title, in no case shall a person be deemed

to have made an election to provide a supplemental annuity for a spouse or former spouse of such person.

"(b) LIMITATION ON ELIGIBILITY FOR CERTAIN SBP PARTICIPANTS NOT AFFECTED BY TWO-TIER ANNUITY COMPUTATION.—A person is not eligible to make an election under this section if (as determined by the Secretary concerned) the annuity of a spouse or former spouse beneficiary of that person under the Survivor Benefit Plan will be computed under section 1451(e) of this title. However, such a person may waive the right to have that annuity computed under section 1451(e) of this title. Any such election is irrevocable. A person making such a waiver may make an election under this section as in the case of any other participant in the Survivor Benefit Plan.

"(c) ELECTION OF SUPPLEMENTAL SPOUSE ANNUITY BEFORE BECOMING A PARTICIPANT IN SBP.—

"(1) IN GENERAL.—A person anticipating becoming a participant in the Survivor Benefit Plan who has a spouse or former spouse may elect to provide a supplemental spouse annuity under this subchapter for that spouse or former spouse.

"(2) CONDITIONS ON ELECTION.—An election under paragraph (1)—

"(A) must be made before the day on which the person making the election first becomes a participant in the Survivor Benefit Plan; and

"(B) shall be made in the same manner as an election under section 1448 of this title that is available to that person at the same time.

"(3) REQUIREMENT OF SPOUSE ANNUITY UNDER SBP.—If upon becoming a participant in the Survivor Benefit Plan under section 1448 of this title the person is not providing an annuity for the person's spouse or former spouse, an election under this section to provide a supplemental spouse annuity shall be void.

"(4) SPECIAL RULE FOR RCSBP PARTICIPANTS.—For the purposes of this subsection, a person providing a reserve-component annuity under the Survivor Benefit Plan shall not be considered to have become a participant in that Plan until the end of the 90-day period referred to in clause (iii) of section 1448(a)(2)(B) of this title.

"(d) ELECTION OF FORMER SPOUSE AFTER BECOMING ELIGIBLE FOR SURVIVOR BENEFIT PLAN.—

"(1) ELECTION OF COVERAGE.—A person who elects under section 1448(b)(3) of this title to provide coverage under the Survivor Benefit Plan for a former spouse may elect to provide a supplemental spouse annuity for that former spouse. Any such election must be signed by the person and received by the Secretary concerned within one year after the date of the decree of divorce, dissolution, or annulment.

"(2) EFFECTIVE DATE OF ELECTION.—An election under paragraph (1) is effective as of the same day as the election under section 1448(b)(3) of this title.

"(e) NOTICE TO SPOUSE OF FORMER SPOUSE COVERAGE.—If a married person who is eligible to provide an annuity under the Survivor Benefit Plan elects to provide an annuity under that Plan for a former spouse (or for a former spouse and dependent child) and elects under this section to provide a supplemental spouse annuity for that former spouse, the notification to the person's spouse under

section 1448(a)(3)(E) or 1448(b)(3)(D) of this title shall include notice of the election under this section.

"(f) IRREVOCABILITY OF ELECTIONS.—

"(1) STANDARD ANNUITY.—An election under subsection (c) to provide a supplemental spouse annuity by a person providing a standard annuity under the Survivor Benefit Plan is irrevocable if not revoked on the day before the date on which the person first becomes a participant in that Plan.

"(2) RESERVE-COMPONENT ANNUITY.—An election under subsection (c) to provide a supplemental spouse annuity by a person providing a reserve-component annuity under the Survivor Benefit Plan is irrevocable if not revoked before the end of the 90-day period with respect to that person referred to in clause (iii) of section 1448(a)(2)(B) of this title.

"(3) FORMER SPOUSE ELECTIONS.—An election under subsection (d) may not be revoked except in accordance with subsection (h).

"(g) REMARRIAGE AFTER RETIREMENT.—

"(1) ELECTION UPON REMARRIAGE.—A person—

"(A) who is a participant in the Survivor Benefit Plan and is providing coverage under that Plan for a spouse (or a spouse and child) but is not a participant in the Supplemental Survivor Benefit Plan;

"(B) who does not have an eligible spouse beneficiary under that Plan; and

"(C) who remarries,

may (subject to paragraph (2)) elect to provide a supplemental spouse annuity under this subchapter for the person's spouse.

"(2) LIMITATIONS ON ELECTION.—A person may not make an election under paragraph (1) if the person elects under section 1448(a)(6)(A) of this title not to provide coverage under the Survivor Benefit Plan for the person's spouse.

"(3) CONDITIONS ON ELECTION.—An election under paragraph (1)—

"(A) is irrevocable;

"(B) shall be made within one year after the remarriage; and

"(C) shall be made in such form and manner as may be prescribed in regulations under section 1460b of this title.

"(h) CHANGE OF FORMER SPOUSE BENEFICIARY TO SPOUSE OR CHILD BENEFICIARY.—If a person who is providing an annuity for a former spouse under the Survivor Benefit Plan and a supplemental spouse annuity for that former spouse under this subchapter elects under section 1450(f)(1) of this title to change the beneficiary of the annuity under the Survivor Benefit Plan in order to provide an annuity under that Plan to that person's spouse or to a dependent child—

"(1) the beneficiary under the supplemental spouse annuity shall be deemed to be changed to that spouse also, if the change under section 1450(f)(1) was to provide the annuity for the person's spouse; and

"(2) participation in the supplemental spouse annuity program shall be terminated, if the change under section 1450(f)(1) of this title was to provide the annuity for a dependent child.

"(i) REINSTATEMENT OF DISCONTINUED ANNUITY UPON REINSTATEMENT OF SBP ANNUITY.—If a person who is providing an annuity for a former spouse under the Survivor Benefit Plan and a supplemental spouse annuity for that former spouse under this subchapter discontinues participation in the Survivor Benefit Plan under any

provision of law and subsequently resumes participation in that Plan under any provision of law, the participation of that person in the Supplemental Survivor Benefit Plan under this chapter shall be reinstated effective on the day on which participation in the Survivor Benefit Plan resumes.

"§ 1459. Former spouse coverage: special rules

"(a) DISCLOSURE OF VOLUNTARY WRITTEN AGREEMENT WITH FORMER SPOUSE.—A person who elects under section 1458 of this title to provide a supplemental spouse annuity for a former spouse shall, at the time of making the election, provide the Secretary concerned with a written statement (in a form to be prescribed by that Secretary and signed by such person and former spouse) setting forth whether the election is being made pursuant to a written agreement previously entered into voluntarily by such person as a part of or incident to a proceeding of divorce, dissolution, or annulment and (if so) whether such voluntary written agreement has been incorporated in, or ratified or approved by, a court order.

"(b) ENFORCEMENT OF VOLUNTARY WRITTEN AGREEMENTS INCIDENT TO DIVORCE, ETC.—

"(1) ELECTIONS DEEMED TO HAVE BEEN MADE.—If a person who is eligible to elect under section 1458 of this title to provide a supplemental spouse annuity for a former spouse voluntarily enters, incident to a proceeding of divorce, dissolution, or annulment, into a written agreement to elect to provide a supplemental annuity for a former spouse and that agreement is incorporated in or ratified or approved by a court order or is filed with the court of appropriate jurisdiction in accordance with applicable State law, and such person then fails or refuses to make the election as set forth in the voluntary agreement, such person shall be deemed to have made the election if the Secretary concerned—

"(A) receives from the former spouse concerned a written request, in such manner as the Secretary shall prescribe, requesting that the election be deemed to have been made; and

"(B) receives (i) a copy of the court order, regular on its face, which incorporates, ratifies, or approves the written agreement of such person, or (ii) a statement from the clerk of the court (or other appropriate official) that such agreement has been filed with the court in accordance with applicable State law.

"(2) TIME LIMIT FOR REQUEST TO SECRETARY CONCERNED.—An election may not be deemed to have been made under paragraph (1) in the case of any person unless the Secretary concerned receives a request from the former spouse within one year after the date of the court order or filing involved.

"(3) EFFECTIVE DATE OF DEEMED ELECTION.—An election deemed to have been made under paragraph (1) shall become effective on the first day of the first month which begins after the date of the court order or filing involved.

"§ 1460. Supplemental spouse coverage: reductions in retired pay

"(a) REDUCTION REQUIRED.—The retired pay of a person who elects to provide a supplemental spouse annuity shall be reduced each month as required under regulations prescribed under subsection (b).

"(b) REGULATIONS DETERMINING AMOUNT OF REDUCTION.—Regulations for the purposes of subsection (a) shall be prescribed by the Secretary of Defense. Those regulations shall be based upon assumptions used by the Department of Defense Retirement Board of Actuaries in the valuation of military retirement and survivor benefit programs under chapter 74 of this title (including assumptions relating to mortality, interest rates, and inflation) and shall ensure the following:

"(1) That reductions in retired pay under this section are made in amounts sufficient to provide that the Supplemental Survivor Benefit Plan operates on an actuarially neutral basis.

"(2) That such reductions are stated, with respect to the base amount (under the Survivor Benefit Plan) of any person, as a constant percentage of that base amount.

"(3) That the amounts of such reductions in retired pay of persons participating in the Supplemental Survivor Benefit Plan (stated as a percentage of base amount)—

"(A) are based on the age of the participant at the time participation in that Plan is first effective under this subchapter; and

"(B) are not determined by any other demographic differentiation among participants in the Plan.

"(4) That such reductions are otherwise determined in accordance with generally accepted actuarial principles and practices.

"(c) SUSPENSION OF REDUCTION WHEN THERE IS NO SPOUSE BENEFICIARY.—A reduction in retired pay under this section shall not be made in the case of any person during any month in which there is no eligible spouse or former spouse beneficiary.

"(d) ADJUSTMENTS IN AMOUNT OF REDUCTION.—Whenever the amount of the reduction in retired pay of a participant in the Survivor Benefit Plan is increased under section 1452(h) of this title or recomputed under section 1452(i) of this title, the amount of the reduction in that retired pay under this section shall be increased or recomputed, as the case may be, at the same time and in the same manner as that increase or recomputation.

"(e) ADMINISTRATIVE PROVISIONS.—The provisions of subsections (d) and (f) of section 1452 of this title apply with respect to the participation of a person in the Supplemental Survivor Benefit Plan in the same manner that those provisions apply under the Survivor Benefit Plan.

"§ 1460a. Incorporation of certain administrative provisions

"(a) APPLICABILITY OF CERTAIN PROVISIONS OF SBP LAW.—The provisions of section 1449, 1452(g), 1453, and 1454 of this title are applicable to a person eligible to make an election, and to an election, under this subchapter in the same manner as if made under subchapter II.

"(b) OTHER APPLICABLE PROVISIONS.—Except to the extent otherwise provided in regulations prescribed under section 1460b of this title, the provisions of subsections (h), (i), and (l) of section 1450 of this title apply to supplemental spouse annuities in the same manner that those provisions apply to annuities under the Survivor Benefit Plan.

"§ 1460b. Regulations

"The President shall prescribe regulations to carry out this subchapter. Those regulations shall, so far as practicable, be uniform President of U.S.

for the uniformed services and shall, so far as practicable, incorporate provisions of the regulations in effect under section 1455 of this title.".

Effective date.

(2) Effective on October 1, 1991, the table of subchapters at the beginning of chapter 73 of such title is amended by adding at the end the following new item:

"III. Supplemental Spouse Coverage for Survivor Benefit Plan Participants.... 1456".

(b) CONFORMING AMENDMENTS.—(1) Section 1331(d) of title 10, United States Code, is amended by inserting "and the Supplemental Survivor Benefit Plan established under subchapter III of that chapter," after "this title".

(2) Section 3101(c)(1) of title 38, United States Code, is amended by striking out "of subchapter I or II".

Effective date. 10 USC 1331 note.

(3) The amendments made by paragraphs (1) and (2) shall take effect on October 1, 1991.

10 USC 1448 note.

SEC. 1405. OPEN ENROLLMENT PERIOD

(a) PERSONS NOT CURRENTLY PARTICIPATING IN SURVIVOR BENEFIT PLAN.—

(1) ELECTION OF SBP COVERAGE.—An eligible retired or former member may elect to participate in the Survivor Benefit Plan during the open enrollment period specified in subsection (f).

(2) ELECTION OF SUPPLEMENTAL ANNUITY COVERGE.—An eligible retired or former member who elects under paragraph (1) to participate in the Survivor Benefit Plan may also elect during the open enrollment period to participate in the Supplemental Survivor Benefit Plan established under subchapter III of chapter 73 of title 10, United States Code, as added by section 1404.

(3) ELIGIBLE RETIRED OR FORMER MEMBER.—For purposes of paragraphs (1) and (2), an eligible retired or former member is a member or former member of the uniformed services who on the day before the first day of the open enrollment period is not a participant in the Survivor Benefit Plan and—

(A) is entitled to retired pay; or

(B) would be entitled to retired pay under chapter 67 of title 10, United States Code, but for the fact that such member or former member is under 60 years of age.

(4) STATUS UNDER SBP OF PERSONS MAKING ELECTIONS.—

(A) STANDARD ANNUITY.—A person making an election under paragraph (1) by reason of eligibility under paragraph (3)(A) shall be treated for all purposes as providing a standard annuity under the Survivor Benefit Plan.

(B) RESERVE-COMPONENT ANNUITY.—A person making an election under paragraph (1) by reason of eligibility under paragraph (3)(B) shall be treated for all purposes as providing a reserve-component annuity under the Survivor Benefit Plan.

(b) ELECTION TO INCREASE COVERAGE UNDER SBP.—A person who on the day before the first day of the open enrollment period is a participant in the Survivor Benefit Plan but is not participating at the maximum base amount or is providing coverage under the Plan for a dependent child and not for the person's spouse or former spouse may, during the open enrollment period elect to—

(1) participate in the Plan at a higher base amount (not in excess of the participant's retired pay); or

(2) provide annuity coverage under the Plan for the person's spouse or former spouse at a base amount not less than the base amount provided for the dependent child.

(c) ELECTION FOR CURRENT SBP PARTICIPANTS TO PARTICIPATE IN SUPPLEMENTAL SBP.—

(1) ELECTION.—A person who is eligible to make an election under this paragraph may elect during the open enrollment period to participate in the Supplemental Survivor Benefit Plan established under subchapter III of chapter 73 of title 10, United States Code, as added by section 1404.

(2) PERSONS ELIGIBLE.—Except as provided in paragraph (3), a person is eligible to make an election under paragraph (1) if on the day before the first day of the open enrollment period the person is a participant in the Survivor Benefit Plan and under that Plan is providing annuity coverage for the person's spouse or a former spouse.

(3) LIMITATION ON ELIGIBILITY FOR CERTAIN SBP PARTICIPANTS NOT AFFECTED BY TWO-TIER ANNUITY COMPUTATION.—A person is not eligible to make an election under paragraph (1) if (as determined by the Secretary concerned) the annuity of a spouse or former spouse beneficiary of that person under the Survivor Benefit Plan will be computed under section 1451(e) of title 10, United States Code. However, such a person may during the open enrollment period waive the right to have that annuity computed under such section. Any such election is irrevocable. A person making such a waiver may make an election under paragraph (1) as in the case of any other participant in the Survivor Benefit Plan.

(d) MANNER OF MAKING ELECTIONS.—An election under this section must be made in writing, signed by the person making the election, and received by the Secretary concerned before the end of the open enrollment period. Any such election shall be made subject to the same conditions, and with the same opportunities for designation of beneficiaries and specification of base amount, that apply under the Survivor Benefit Plan or the Supplemental Survivor Benefit Plan, as the case may be. A person making an election under subsection (a) to provide a reserve-component annuity shall make a designation described in section 1448(e) of title 10, United States Code.

(e) EFFECTIVE DATE FOR ELECTIONS.—Any such election shall be effective as of the first day of the first calendar month following the month in which the election is received by the Secretary concerned.

(f) OPEN ENROLLMENT PERIOD DEFINED.—The open enrollment period is the one-year period beginning on October 1, 1991.

(g) EFFECT OF DEATH OF PERSON MAKING ELECTION WITHIN TWO YEARS OF MAKING ELECTION.—If a person making an election under this section dies before the end of the two-year period beginning on the effective date of the election, the election is void and the amount of any reduction in retired pay of the person that is attributable to the election shall be paid in a lump sum to the person who would have been the deceased person's beneficiary under the voided election if the deceased person had died after the end of such two-year period.

(h) APPLICABILITY OF CERTAIN PROVISIONS OF LAW.—The provisions of sections 1449, 1453, and 1454 of title 10, United States Code, are applicable to a person making an election, and to an election, under this section in the same manner as if the election were made under

the Survivor Benefit Plan or the Supplemental Survivor Benefit Plan, as the case may be.

(i) REPORT CONCERNING OPEN SEASON.—Not later than June 1, 1990, the Secretary of Defense shall submit to the Committees on Armed Services of the Senate and House of Representatives a report on the open season authorized by this section for the Survivor Benefit Plan. The report shall include—

(1) a description of the Secretary's plans for implementation of the open season;

(2) the Secretary's estimates of the costs associated with the open season, including any anticipated effect of the open season on the actuarial status of the Department of Defense Military Retirement Fund; and

(3) any recommendation by the Secretary for further legislative action.

10 USC 1448 note.

SEC. 1406. DEFINITIONS

For the purpose of this title:

(1) The term "Survivor Benefit Plan" means the program established under subchapter II of chapter 73 of title 10, United States Code.

(2) The term "retired pay" includes retainer pay paid under section 6330 of title 10, United States Code.

(3) The terms "uniformed services" and "Secretary concerned" have the meanings given those terms in section 101 of title 37, United States Code.

SEC. 1407. MISCELLANEOUS TECHNICAL AND CLERICAL AMENDMENTS

(a) GENERAL AMENDMENTS.—Subchapter II of chapter 73 of title 10, United States Code, is amended as follows:

(1) Section 1447 is amended—

(A) in paragraph (5), by striking out "this clause" both places it appears and inserting in lieu thereof "this paragraph";

(B) in paragraph (11), by inserting "paid under section 6330 of this title" after "retainer pay"; and

(C) by adding at the end the following new paragraph:

"(14) The term 'reserve-component retired pay' means retired pay under chapter 67 of this title.".

(2) Sections 1447(2)(B), 1447(2)(C)(ii), 1448(a)(1)(B), 1448(a)(2)(B), 1448(f)(1)(A), 1448(f)(1)(B), and 1450(l)(1) are amended by striking out "retired pay under chapter 67 of this title" and inserting in lieu thereof "reserve-component retired pay".

(3) Sections 1447(2)(C)(i), 1447(3), 1447(4), 1448(a)(4)(A), 1449, and 1450(l)(2) are amended by striking out "or retainer".

(4) Section 1450(f)(3)(B) is amended—

(A) by striking out "before October 1, 1985, or"; and

(B) by striking out ", whichever is later".

(5) Section 1451(c)(4) is amended by inserting "by reason of the service of a person who first became a member of a uniformed service before September 8, 1980" after "of this title".

(6) Section 1451(e)(1) is amended by striking out "plan" in the matter preceding subparagraph (A) and inserting in lieu thereof "Plan".

(7) Section 1451(e)(1)(B) is amended—

(A) by striking out "is" each place it appears and inserting in lieu thereof "was";

(B) by striking out "has" in clause (ii) and inserting in lieu thereof "had"; and

(C) by striking out "would be" in clause (iii) and inserting in lieu thereof "would have been".

(8) Section 1451(e)(2) is amended by striking out "(as the base amount is adjusted from time to time under section 1401a of this title)" in subparagraphs (A) and (B).

(9) Section 1452(h) is amended—

(A) by inserting "(or any other provision of law)" after "of this title" the first place it appears; and

(B) by striking out "increased under section 1401a of this title" and inserting in lieu thereof "so increased".

(10)(A) The heading of section 1454 is amended to read as follows:

"§ 1454. Correction of administrative errors".

(B) The item relating to that section in the table of sections at the beginning of that subchapter is amended to read as follows:

"1454. Correction of administrative errors.".

(b) PARITY OF TREATMENT OF FORMER SPOUSES AND SURVIVING SPOUSES.—(1) Section 1451(e) of title 10, United States Code, is amended by inserting "or former spouse" in paragraphs (3)(A) and (4)(A) after "widow or widower".

(2) The amendments made by paragraph (1) shall apply only with respect to the computation of an annuity for a person who becomes a former spouse under a divorce that becomes final after the date of the enactment of this Act. 10 USC 1451 note.

TITLE XV—MILITARY CHILD CARE

Military Child Care Act of 1989. 10 USC 113 note.

SEC. 1501. SHORT TITLE; DEFINITIONS

(a) SHORT TITLE.—This title may be cited as the "Military Child Care Act of 1989".

(b) DEFINITIONS.—For purposes of this title:

(1) The term "military child development center" means a facility on a military installation (or on property under the jurisdiction of the commander of a military installation) at which child care services are provided for members of the Armed Forces or any other facility at which such child care services are provided that is operated by the Secretary of a military department.

(2) The term "family home day care" means home-based child care services that are provided for members of the Armed Forces by an individual who (A) is certified by the Secretary of the military department concerned as qualified to provide those services, and (B) provides those services on a regular basis for compensation.

(3) The term "child care employee" means a civilian employee of the Department of Defense who is employed to work in a military child development center (regardless of whether the employee is paid from appropriated funds or nonappropriated funds).

(4) The term "child care fee receipts" means those nonappropriated funds that are derived from fees paid by members of the Armed Forces for child care services provided at military child development centers.

SEC. 1502. FUNDING FOR MILITARY CHILD CARE FOR FISCAL YEAR 1990

(a) FISCAL YEAR 1990 FUNDING.—(1) It is the policy of Congress that the amount of appropriated funds available during fiscal year 1990 for operating expenses for military child development centers shall not be less than the amount of child care fee receipts that are estimated to be received by the Department of Defense during that fiscal year. Of the amount authorized to be appropriated for the Department of Defense for fiscal year 1990, $102,000,000 shall be available for operating expenses for military child development centers.

(2) In addition to the amount referred to in paragraph (1), $26,000,000 shall be available for child care and child-related services of the Department other than military child development centers.

(3) In using the funds referred to in paragraph (1), the Secretary shall give priority to—

(A) increasing the number of child care employees who are directly involved in providing child care for members of the Armed Forces; and

(B) expanding the availability of child care for members of the Armed Forces.

(b) FUNDS DERIVED FROM PARENT FEES TO BE USED FOR EMPLOYEE COMPENSATION AND OTHER CHILD CARE SERVICES.—(1) Except as provided in paragraph (2), child care fee receipts may be used during fiscal year 1990 only for compensation of child care employees who are directly involved in providing child care.

(2) If the Secretary of Defense determines that compliance with the limitation in paragraph (1) would result in an uneconomical and inefficient use of such fee receipts, the Secretary may (to the extent that such compliance would be uneconomical and inefficient) use such receipts—

(A) first, for the purchase of consumable or disposable items for military child development centers; and

(B) if the requirements of such centers for consumable or disposable items for fiscal year 1990 have been met, for other expenses of those centers.

(c) REPORT.—(1) Not later than December 31, 1989, the Secretary of Defense shall submit to the Committees on Armed Services of the Senate and House of Representatives a report on how the Secretary intends to use the funds referred to in subsection (a), including how the Secretary intends to achieve the priorities specified in paragraph (3) of that subsection.

(2) If at the time such report is submitted the Secretary proposes to use the authority provided by subsection (b)(2), the Secretary shall include in the report under paragraph (1) a description of the use proposed to be made of that authority and a statement of the reasons why the Secretary determined that compliance with the limitation in subsection (b)(1) would result in an uneconomical and inefficient use of child care fee receipts, together with supporting cost information and other information justifying the determination.

(3) If the Secretary uses such authority after December 31, 1989, the Secretary shall promptly inform the committees of the use of the authority and of the reasons for its use.

SEC. 1503. CHILD CARE EMPLOYEES

(a) REQUIRED TRAINING.—(1) The Secretary of Defense shall establish, and prescribe regulations to implement, a training program for child care employees. Those regulations shall apply uniformly among the military departments. Subject to paragraph (2), satisfactory completion of the training program shall be a condition of employment of any person as a child care employee. Regulations.

(2) Under those regulations, the Secretary shall require that each child care employee complete the training program not later than six months after the date on which the employee is employed as a child care employee (except that, in the case of a child care employee hired before the date on which the training program is established, the Secretary shall require that the employee complete the program not later than six months after that date).

(3) The training program established under this subsection shall cover, at a minimum, training in the following:

(A) Early childhood development.

(B) Activities and disciplinary techniques appropriate to children of different ages.

(C) Child abuse prevention and detection.

(D) Cardiopulmonary resuscitation and other emergency medical procedures.

(b) TRAINING AND CURRICULUM SPECIALISTS.—(1) The Secretary of Defense shall require that at least one employee at each military child development center be a specialist in training and curriculum development. The Secretary shall ensure that such employees have appropriate credentials and experience.

(2) The duties of such employees shall include the following:

(A) Special teaching activities at the center.

(B) Daily oversight and instruction of other child care employees at the center.

(C) Daily assistance in the preparation of lesson plans.

(D) Assistance in the center's child abuse prevention and detection program.

(E) Advising the director of the center on the performance of other child care employees.

(3) Each employee referred to in paragraph (1) shall be an employee in a competitive service position.

(c) PROGRAM TO TEST COMPETITIVE RATES OF PAY.—(1) For the purpose of improving the capability of the Department of Defense to provide military child development centers with a qualified and stable civilian workforce, the Secretary of Defense shall conduct a program as provided in this subsection to increase the compensation of child care employees. The Secretary shall begin the program not later than six months after the date of the enactment of this Act. The program shall be in effect for a period of at least two years.

(2) The program shall apply to all child care employees who—

(A) are directly involved in providing child care; and

(B) are paid from nonappropriated funds.

(3) Under the program, child care employees at a military installation who are described in paragraph (2) shall be paid—

(A) in the case of entry-level employees, at rates of pay competitive with the rates of pay paid to other entry-level employees at that installation who are drawn from the same labor pool; and

(B) in the case of other employees, at rates of pay substantially equivalent to the rates of pay paid to other employees at that installation with similar training, seniority, and experience.

(d) EMPLOYMENT PREFERENCE TEST PROGRAM FOR MILITARY SPOUSES.—(1) The Secretary of Defense shall conduct a test program under which qualified spouses of members of the Armed Forces shall be given a preference in hiring for the position of child care employee in a position paid from nonappropriated funds if the spouse is among persons determined to be best qualified for the position. A spouse who is provided a preference under this subsection at a military child development center may not be precluded from obtaining another preference, in accordance with section 806 of the Military Family Act of 1985 (10 U.S.C. 113 note), in the same geographical area as the military child development center.

(2) The test program under this subsection shall run concurrently with the program under subsection (c).

(e) REPORT ON COMPENSATION AND SPOUSE EMPLOYMENT PREFERENCE PROGRAMS.—Not later than March 1, 1991, the Secretary of Defense shall submit to the Committees on Armed Services of the Senate and House of Representatives a report on the programs under subsections (c) and (d). The report shall include the findings of the Secretary concerning the effect of each of the programs on the quality of child care provided in military child development centers and the effect of the spouse employment preference program on employee turnover at such centers.

(f) ADDITIONAL CHILD CARE POSITIONS.—(1) The Secretary of Defense shall make available for child care programs of the Department of Defense, not later than September 30, 1990, at least 1,000 competitive service positions in addition to the number of competitive service positions in such programs as of September 30, 1989. During fiscal year 1991, the Secretary shall make available to child care programs of the Department additional competitive service positions so that the number of competitive service positions in such programs as of September 30, 1991, is at least 3,700 greater than the number of competitive service positions in such programs as of September 30, 1989.

(2) The Secretary may waive the increase otherwise required by the second sentence of paragraph (1) to the extent that the Secretary determines that such increase is not executable. If the Secretary issues such a waiver, the Secretary shall promptly submit to the Committees on Armed Services of the Senate and House of Representatives a report on the waiver. Any such report shall specify the number of such positions waived and the reasons for the waiver.

Reports.

(3) The additional positions provided for in paragraph (1), and the workyears associated with those positions, that are used outside the United States shall not be counted for purpose of applying any limitation on the total number of positions or workyears, respectively, available to the Department of Defense outside the United States (or any limitation on the availability of appropriated funds for such positions or workyears for any fiscal year).

(g) COMPETITIVE SERVICE POSITION DEFINED.—For purposes of this section, the term "competitive service position" means a position in the competitive service, as defined in section 2102(a)(1) of title 5, United States Code.

SEC. 1504. PARENT FEES

The Secretary of Defense shall prescribe regulations establishing fees to be charged parents for the attendance of children at military child development centers. Those regulations shall be uniform for the military departments and shall require that, in the case of children who attend the centers on a regular basis, the fees shall be based on family income. Regulations.

SEC. 1505. CHILD ABUSE PREVENTION AND SAFETY AT FACILITIES

(a) CHILD ABUSE TASK FORCE.—The Secretary of Defense shall establish and maintain a special task force to respond to allegations of widespread child abuse at a military installation. The task force shall be composed of personnel from appropriate disciplines, including, where appropriate, medicine, psychology, and childhood development. In the case of such allegations, the task force shall provide assistance to the commander of the installation, and to parents at the installation, in helping them to deal with such allegations. Establishment.

(b) NATIONAL HOTLINE.—(1) The Secretary of Defense shall establish and maintain a national telephone number for persons to use to report suspected child abuse or safety violations at a military child development center or family home day care site. The Secretary shall ensure that such reports may be made anonymously if so desired by the person making the report. The Secretary shall establish procedures for following up on complaints and information received over that number. Communications and telecommunications.

(2) The Secretary shall establish such national telephone number not later than 90 days after the date of the enactment of this Act and shall publicize the existence of the number. Effective date.

(c) ASSISTANCE FROM LOCAL AUTHORITIES.—The Secretary of Defense shall prescribe regulations requiring that, in a case of allegations of child abuse at a military child development center or family home day care site, the commander of the military installation or the head of the task force established under subsection (a) shall seek the assistance of local child protective authorities if such assistance is available. Regulations.

(d) SAFETY REGULATIONS.—The Secretary of Defense shall prescribe regulations on safety and operating procedures at military child development centers. Those regulations shall apply uniformly among the military departments.

(e) INSPECTIONS.—The Secretary of Defense shall require that each military child development center be inspected not less often than four times a year. Each such inspection shall be unannounced. At least one inspection a year shall be carried out by a representative of the installation served by the center, and one inspection a year shall be carried out by a representative of the major command under which that installation operates.

(f) REMEDIES FOR VIOLATIONS.—(1) Except as provided in paragraph (2), any violation of a safety, health, or child welfare law or regulation (discovered at an inspection or otherwise) at a military child development center shall be remedied immediately.

(2) In the case of a violation that is not life threatening, the commander of the major command under which the installation concerned operates may waive the requirement that the violation be remedied immediately for a period of up to 90 days beginning on the date of the discovery of the violation. If the violation is not remedied as of the end of that 90-day period, the military child development center shall be closed until the violation is remedied. The Secretary

of the military department concerned may waive the preceding sentence and authorize the center to remain open in a case in which the violation cannot reasonably be remedied within that 90-day period or in which major facility reconstruction is required.

Reports.

(3) If a military child development center is closed under paragraph (2), the Secretary of the military department concerned shall promptly submit to the Committees on Armed Services of the Senate and House of Representatives a report notifying those committees of the closing. The report shall include—

(A) notice of the violation that resulted in the closing and the cost of remedying the violation; and

(B) a statement of the reasons why the violation has not been remedied as of the time of the report.

(g) REPORT ON COOPERATION WITH DEPARTMENT OF JUSTICE.—(1) The Secretary of Defense, in consultation with the Attorney General, shall study matters relating to military child care that are of concern to the Department of Justice. The matters studied shall include the following:

(A) Improving communication between the Department of Defense and the Department of Justice in investigations of child abuse in military programs and in the coordination of the conduct of such investigations.

(B) Eliminating overlapping responsibilities between the two departments.

(C) Making better use of government and non-government experts in child abuse investigations and prosecutions.

(D) Improving communication with affected families by the Department of Defense, the Department of Justice, and appropriate State and local agencies.

(2) Not later than six months after the date of the enactment of this Act, the Secretary of Defense shall submit to Congress a report on the study required by paragraph (1). The report shall include recommendations on methods for improving the matters studied.

(3) Not later than nine months after the date of the enactment of this Act, the Comptroller General of the United States shall submit to Congress a report evaluating the findings in the report submitted under paragraph (2).

Establishment.

SEC. 1506. PARENT PARTNERSHIPS WITH CHILD DEVELOPMENT CENTERS

(a) PARENT BOARDS.—The Secretary of Defense shall require that there be established at each military child development center a board of parents, to be composed of parents of children attending the center. The board shall meet periodically with staff of the center and the commander of the installation served by the center for the purpose of discussing problems and concerns. The board, together with the staff of the center, shall be responsible for coordinating the parent participation program described in subsection (b).

(b) PARENT PARTICIPATION PROGRAMS.—The Secretary of Defense shall require the establishment of a parent participation program at each military child development center. As part of such program, the Secretary of Defense may establish fees for attendance of children at such a center, in the case of parents who participate in the parent participation program at that center, at rates lower than the rates that otherwise apply.

SEC. 1507. REPORT ON FIVE-YEAR DEMAND FOR CHILD CARE

(a) REPORT REQUIRED.—Not later than six months after the date of the enactment of this Act, the Secretary of Defense shall submit to Congress a report on the expected demand for child care by military and civilian personnel of the Department of Defense during fiscal years 1991 through 1995.

(b) PLAN FOR MEETING DEMAND.—The report shall include—

(1) a plan for meeting the expected child care demand identified in the report; and

(2) an estimate of the cost of implementing that plan.

(c) MONITORING OF FAMILY DAY CARE PROVIDERS.—The report shall also include a description of methods for monitoring family home day care programs of the military departments.

SEC. 1508. SUBSIDIES FOR FAMILY HOME DAY CARE

The Secretary of Defense may use appropriated funds available for military child care purposes to provide assistance to family home day care providers so that family home day care services can be provided to members of the Armed Forces at a cost comparable to the cost of services provided by military child development centers. The Secretary shall prescribe regulations for the provision of such assistance. Regulations.

SEC. 1509. EARLY CHILDHOOD EDUCATION DEMONSTRATION PROGRAM

(a) DEMONSTRATION PROGRAM FOR ACCREDITED CENTERS.—(1) The Secretary of Defense shall carry out a program to demonstrate the effect on the development of preschool children of requiring that military child development centers meet standards of operation necessary for accreditation by an appropriate national early childhood programs accrediting body. To carry out such demonstration program, the Secretary shall ensure that not later than June 1, 1991, at least 50 military child development centers are accredited by such an appropriate national early childhood accrediting body.

(2) Each military child development center so accredited shall be designated as an early childhood education demonstration project and shall serve as a program model for other military child development centers and family home day care providers at military installations.

(b) PLAN FOR IMPLEMENTATION.—Not later than April 1, 1990, the Secretary shall submit to the Committees on Armed Services of the Senate and House of Representatives a plan for carrying out the requirements of subsection (a).

(c) EVALUATION.—The Secretary shall obtain an independent evaluation of the demonstration program carried out under subsection (a) to determine the extent to which the imposition of a requirement that military child development centers meet accreditation standards effectively promotes the development of preschool children of members of the Armed Forces. The Secretary shall report the results of the evaluation to Congress, together with such comments and recommendations as the Secretary considers appropriate, not later than July 15, 1992. Reports.

SEC. 1510. DEADLINE FOR REGULATIONS

Regulations required to be prescribed by this title shall be prescribed not later than 90 days after the date of the enactment of this Act.

TITLE XVI—GENERAL PROVISIONS

PART A—FINANCIAL AND BUDGET MATTERS

SEC. 1601. TRANSFER AUTHORITY

(a) AUTHORITY TO TRANSFER AUTHORIZATIONS.—(1) Upon determination by the Secretary of Defense that such action is necessary in the national interest, the Secretary may transfer amounts of authorizations made available to the Department of Defense in this division for fiscal year 1990 between any such authorizations (or any subdivisions thereof). Amounts of authorizations so transferred shall be merged with and be available for the same purposes as the authorization to which transferred.

(2) The total amount of authorizations that the Secretary of Defense may transfer under the authority of this section may not exceed $3,000,000,000.

(b) LIMITATIONS.—The authority provided by this section to transfer authorizations—

(1) may only be used to provide authority for items that have a higher priority than the items from which authority is transferred; and

(2) may not be used to provide authority for an item that has been denied authorization by Congress.

(c) EFFECT ON OBLIGATION LIMITATIONS.—A transfer made under the authority of this section increases by the amount of the transfer the obligation limitation provided in this division on the account (or other amount) to which the transfer is made.

(d) NOTICE TO CONGRESS.—The Secretary of Defense shall promptly notify Congress of transfers made under the authority of this section.

SEC. 1602. RESTATEMENT AND CLARIFICATION OF REQUIREMENT FOR CONSISTENCY IN THE BUDGET PRESENTATIONS OF THE DEPARTMENT OF DEFENSE

(a) RESTATEMENT AND CLARIFICATION.—(1) Chapter 2 of title 10, United States Code, is amended by inserting after section 114 the following new section:

"§ 114a. Five-Year Defense Program: submission to Congress; consistency in budgeting

"(a) The Secretary of Defense shall submit to Congress each year, at or about the time that the President's budget is submitted to Congress that year under section 1105(a) of title 31, the current five-year defense program (including associated annexes) reflecting the estimated expenditures and proposed appropriations included in that budget.

"(b)(1) The Secretary of Defense shall ensure that amounts described in subparagraph (A) of paragraph (2) for any fiscal year are consistent with amounts described in subparagraph (B) of paragraph (2) for that fiscal year.

"(2) Amounts referred to in paragraph (1) are the following:

"(A) The amounts specified in program and budget information submitted to Congress by the Secretary in support of expenditure estimates and proposed appropriations in the budget submitted to Congress by the President under section 1105(a) of title 31 for any fiscal year, as shown in the five-year defense program submitted pursuant to subsection (a).

"(B) The total amounts of estimated expenditures and proposed appropriations necessary to support the programs, projects, and activities of the Department of Defense included pursuant to paragraph (5) of section 1105(a) of title 31 in the budget submitted to Congress under that section for any fiscal year.

"(c) Nothing in this section shall be construed to prohibit the inclusion in the five-year defense program of amounts for management contingencies, subject to the requirements of subsection (b).".

(2) The table of sections at the beginning of such chapter is amended by inserting after the item relating to section 114 the following new item:

"114a. Five-Year Defense Program: submission to Congress; consistency in budgeting.".

(b) CONFORMING AMENDMENT.—Section 114 of title 10, United States Code, is amended by striking out subsections (f) and (g).

SEC. 1603. LIMITATION ON RESTORATION OF WITHDRAWN UNOBLIGATED BALANCES

(a) CONDITIONS ON RESTORATION.—(1) Chapter 165 of title 10, United States Code, is amended by adding at the end the following new section:

"§ 2782. Unobligated balances withdrawn from availability for obligation: limitations on restoration

"(a)(1) If a defense funds restoral to provide funds for a program, project, or activity to cover amounts required for late contract changes would cause the the total amount of such restorals during a fiscal year for late contract changes for that program, project or activity to exceed $4,000,000, the restoral action may only be carried out if—

"(A) the Secretary of the military department concerned, or the Secretary of Defense, with respect to a program, project, or activity administered by a Defense Agency, determines that such action is necessary to pay obligations and make adjustments under an existing contract; and

"(B) the action is approved by the Secretary of Defense (or an officer of the Department of Defense within the Office of the Secretary of Defense to whom the Secretary has delegated the authority to approve such an action).

"(2) A contract change shall be considered to be a late contract change for purposes of paragraph (1) if it is made after the end of the period of availability for obligation of the account to which funds are to be restored under the restoral action.

"(b) In a case in which any defense funds restoral to provide funds for a program, project, or activity of the Department of Defense would cause the total amount so restored during a fiscal year for that program, project or activity to exceed $25,000,000, the restoral action may not be taken until—

"(1) the Secretary of Defense submits to the Committees on Armed Services and the Committees on Appropriations of the Senate and House of Representatives a notice in writing of the intent to restore such funds, together with a description of the legal basis for the proposed action and the policy reasons for the proposed action; and

"(2) a period of 30 days has elapsed after the notice is submitted.

"(c) In this section:

"(1) The term 'defense funds restoral' means a restoration of funds authorized by section 1552(a)(2) of title 31 to an appropriation account of the Department of Defense.

"(2) The term 'contract change' means a change to a contract under which the contractor is required to perform additional work. Such term does not include adjustments to pay claims or increases under a so-called 'escalation clause'.".

(2) The table of sections at the beginning of such chapter is amended by adding at the end the following new item:

"2782. Unobligated balances withdrawn from availability for obligation: limitations on restoration.".

(b) REPORT ON STATUS OF AIR FORCE FUNDS IN TREASURY M ACCOUNT.—The Secretary of Defense shall submit to the congressional defense committees a report on the status of the availability of expired or lapsed funds of the Department of the Air Force in the Department of Treasury Account known as the "M Account". The report shall include an accounting of all funds for the B–1B aircraft program that have been transferred to that account and the amount of those funds that have been withdrawn or obligated from that account. The report shall be submitted concurrently with the submission to Congress of the budget for fiscal year 1991.

31 USC 1531 note.

SEC. 1604. PROHIBITION ON TRANSFER OF FUNDS TO OTHER DEPARTMENTS AND AGENCIES

Funds made available pursuant to this or any other Act for military functions of the Department of Defense may not be made available to any other department or agency of the Federal Government pursuant to a provision of law enacted after the date of the enactment of this Act unless, not less than 30 days before such funds are made available to such other department or agency, the Secretary of Defense submits to the congressional defense committees a report describing the effect on military preparedness of making such funds available to such department or agency.

SEC. 1605. AUTHORITY TO TRANSFER FUNDS TO DEPARTMENT OF ENERGY

(a) TRANSFERS FOR ATOMIC ENERGY DEFENSE ACTIVITIES.—During fiscal year 1990, the Secretary of Defense may transfer to the Department of Energy, from funds appropriated to the Department of Defense, such sums (not to exceed $135,000,000) as the Secretary of Defense and the Secretary of Energy, with the approval of the President, determine are necessary for Atomic Energy Defense Activities. Funds so transferred shall be merged with, and shall be available for the same time period as, the appropriation account to which transferred.

(b) CONGRESSIONAL NOTICE-AND-WAIT.—A transfer may not be made under subsection (a) until—

(1) the Secretary of Defense notifies the Committees on Armed Services and the Committees on Appropriations of the Senate and House of Representatives in writing of the proposed transfer and of the source of the funds for the proposed transfer; and

(2) a period of 30 days elapses after the notice is received by those committees.

SEC. 1606. ONE-YEAR DELAY IN ANY CHANGE IN POLICY RESPECTING REIMBURSEMENT OF DEPARTMENT OF DEFENSE FUNDS FOR SALARIES OF MEMBERS OF THE ARMED FORCES ASSIGNED TO DUTY IN CONNECTION WITH FOREIGN MILITARY SALES PROGRAMS

(a) ONE-YEAR DELAY.—Charges for administrative services calculated under section 21(e) of the Arms Export Control Act (22 U.S.C. 2761(e)) in connection with the sale of defense articles or defense services may not exclude recovery of administrative expenses incurred by the Department of Defense before October 1, 1990, that are attributable to salaries of members of the Armed Forces if the recovery of such administrative expenses would have been allowed under the law in effect on September 30, 1989. Reimbursement of Department of Defense military personnel appropriation accounts for the value of services provided during fiscal year 1990 in connection with the sale of defense articles or defense services may not be denied or limited except to the extent permitted under the law in effect on September 30, 1989.

(b) STATUTORY CONSTRUCTION.—A provision of law enacted after the date of the enactment of this Act may not be construed as modifying or superseding this section unless that provision specifically refers to this section and specifically states that such provision of law modifies or supersedes this section.

SEC. 1607. REPAIR AND REPLACEMENT OF PROPERTY OF THE DEPARTMENT OF DEFENSE DAMAGED OR DESTROYED BY HURRICANE HUGO

(a) Subject to subsection (b), the Secretary of Defense may take such action as he considers necessary to repair damage to real property, facilities, equipment, and other property of the Department of Defense caused by hurricane Hugo in September 1989 or to replace any such property damaged beyond economical repair by that hurricane.

(b) The authority of the Secretary under subsection (a) is subject to the availability of appropriations that may be used for the purposes described in such subsection.

PART B—NAVAL VESSELS AND SHIPYARDS

SEC. 1611. IDENTIFICATION AND HANDLING OF HAZARDOUS WASTES IN NAVAL SHIP REPAIR WORK

(a) REVISION OF REQUIRED CONTRACT PROVISIONS.—Section 7311 of title 10, United States Code, is amended to read as follows:

"§ 7311. Repair or maintenance of naval vessels: handling of hazardous waste

"(a) CONTRACTUAL PROVISIONS.—The Secretary of the Navy shall ensure that each contract entered into for work on a naval vessel (other than new construction) includes the following provisions:

"(1) IDENTIFICATION OF HAZARDOUS WASTES.—A provision in which the Navy identifies the types and amounts of hazardous wastes that are required to be removed by the contractor from the vessel, or that are expected to be generated, during the performance of work under the contract, with such identification by the Navy to be in a form sufficient to enable the contractor to comply with Federal and State laws and regula-

tions on the removal, handling, storage, transportation, or disposal of hazardous waste.

"(2) COMPENSATION.—A provision specifying that the contractor shall be compensated under the contract for work performed by the contractor for duties of the contractor specified under paragraph (3).

"(3) STATEMENT OF WORK.—A provision specifying the responsibilities of the Navy and of the contractor, respectively, for the removal (including the handling, storage, transportation, and disposal) of hazardous wastes.

"(4) ACCOUNTABILITY FOR HAZARDOUS WASTES.—(A) A provision specifying the following:

"(i) In any case in which the Navy is the sole generator of hazardous waste that is removed, handled, stored, transported, or disposed of by the contractor in the performance of the contract, all contracts, manifests, invoices, and other documents related to the removal, handling, storage, transportation, or disposal of such hazardous waste shall bear a generator identification number issued to the Navy pursuant to applicable law.

"(ii) In any case in which the contractor is the sole generator of hazardous waste that is removed, handled, stored, transported, or disposed of by the contractor in the performance of the contract, all contracts, manifests, invoices, and other documents related to the removal, handling, storage, transportation, or disposal of such hazardous waste shall bear a generator identification number issued to the contractor pursuant to applicable law.

"(iii) In any case in which both the Navy and the contractor are generators of hazardous waste that is removed, handled, stored, transported, or disposed of by the contractor in the performance of the contract, all contracts, manifests, invoices, and other documents related to the removal, handling, storage, transportation, or disposal of such hazardous waste shall bear both a generator identification number issued to the Navy and a generator identification number issued to the contractor pursuant to applicable law.

"(B) A determination under this paragraph of whether the Navy is a generator, a contractor is a generator, or both the Navy and a contractor are generators, shall be made in the same manner provided under subtitle C of the Solid Waste Disposal Act (42 U.S.C. 6921 et seq.) and regulations promulgated under that subtitle.

"(b) RENEGOTIATION OF CONTRACT.—The Secretary of the Navy shall renegotiate a contract described in subsection (a) if—

"(1) the contractor, during the performance of work under the contract, discovers hazardous wastes different in type or amount from those identified in the contract; and

"(2) those hazardous wastes originated on, or resulted from material furnished by the Government for, the naval vessel on which the work is being performed.

"(c) REMOVAL OF WASTES.—The Secretary of the Navy shall remove known hazardous wastes from a vessel before the vessel's arrival at a contractor's facility for performance of a contract, to the extent such removal is feasible.

"(d) RELATIONSHIP TO SOLID WASTE DISPOSAL ACT.—Nothing in this section shall be construed as altering or otherwise affecting those

provisions of the Solid Waste Disposal Act (42 U.S.C. 6901 et seq.) that relate to generators of hazardous waste. For purposes of this section, any term used in this section for which a definition is provided by the Solid Waste Disposal Act (or regulations promulgated pursuant to such Act) has the meaning provided by that Act or regulations.".

(b) EFFECTIVE DATE.—The amendment made by subsection (a) shall apply with respect to any contract for work on a naval vessel (other than new construction) entered into after the end of the 90-day period beginning on the date of the enactment of this Act. 10 USC 7311 note.

SEC. 1612. PROGRESS PAYMENTS UNDER NAVAL VESSEL REPAIR CONTRACTS

Section 7312 of title 10, United States Code, is amended—

(1) by striking out "90 percent" and "85 percent" in subsection (a) and inserting in lieu thereof "95 percent" and "90 percent", respectively; and

(2) by striking out "(other than a nuclear-powered vessel) for work required to be performed in one year or less" in subsection (b).

SEC. 1613. FUNDING FOR SHIP PRODUCTION ENGINEERING 10 USC 7291 note.

(a) CATEGORY FOR FUNDING.—Any request submitted to Congress for appropriations for ship production engineering necessary to support the procurement of any ship included (at the time the request is submitted) in the five-year shipbuilding and conversion plan of the Navy shall be set forth in the Shipbuilding and Conversion account of the Navy (rather than in research and development accounts).

(b) APPLICABILITY.—Subsection (a) shall apply only with respect to appropriations for a fiscal year after fiscal year 1990.

SEC. 1614. DEPOT-LEVEL MAINTENANCE OF SHIPS HOMEPORTED IN JAPAN

(a) REQUIREMENT THAT CERTAIN WORK BE PERFORMED IN UNITED STATES.—The Secretary of the Navy shall require that, to the extent feasible and consistent with policies of the Navy regarding family separations, not less than one-half of the depot-level maintenace work described in subsection (b) (measured in cost) shall be carried out in shipyards in the United States (including the territories of the United States). 10 USC 7291 note.

(b) WORK COVERED.—Depot-level maintenance work referred to in subsection (a) is depot-level maintenance work for naval vessels that is scheduled as of October 1, 1989, to be carried out in Japan during fiscal years 1990, 1991, and 1992.

(c) CONFORMING REPEAL.—Section 1226 of Public Law 100-456 (102 Stat. 2055) is repealed. 10 USC 7291 note.

SEC. 1615. REPORT ON ALTERNATIVES TO NAVY OXYGEN BREATHING APPARATUS FOR SHIPBOARD FIREFIGHTING

(a) STUDY.—The Secretary of the Navy shall evaluate alternatives to the Oxygen Breathing Apparatus (OBA) of the Navy used in shipboard firefighting. The evaluation shall include consideration of—

(1) firefighting breathing devices which are used by other government agencies;

(2) firefighting breathing devices which are commercially available; and

(3) undeveloped technologies which could lead to the development of a more effective breathing device for shipboard firefighting.

(b) CRITERIA.—In performing the evaluation under subsection (a), the Secretary shall consider the following criteria for firefighting breathing devices:

(1) Uninterrupted breathing duration.

(2) Adaptability to shipboard space limitations.

(3) Portability in use.

(4) Training requirements for effective use.

(5) Cost.

(6) Availability.

(c) REPORT.—(1) The Secretary shall submit to the Committees on Armed Services of the Senate and House of Representatives a report on the evaluation under subsection (a). The report shall include an acquisition plan for providing an improved breathing apparatus for shipboard firefighting as soon as possible. In preparing that plan, the Secretary shall consider the use of any available expedited research and development and acquisition procedures.

(2) The report shall be submitted no later than 180 days after the date of the enactment of this Act.

SEC. 1616. STRIPPING OF NAVAL VESSELS TO BE USED FOR EXPERIMENTAL PURPOSES

Section 7306 of title 10, United States Code, is amended—

(1) by inserting "(a)" before "The Secretary of the Navy,"; and

(2) by adding at the end the following:

"(b)(1) Before using any vessel for an experimental purpose pursuant to this section, the Secretary shall carry out such stripping of the vessel as is practicable.

"(2) Amounts received as a result of stripping of vessels pursuant to this subsection shall be credited to applicable appropriations available for the procurement of scrapping services under this subsection, to the extent necessary for the procurement of those services. Amounts received which are in excess of amounts necessary for procuring those services shall be deposited into the general fund of the Treasury.

"(3) In providing for stripping of a vessel pursuant to this subsection, the Secretary shall ensure that such stripping does not destroy or diminish the structural integrity of the vessel.".

PART C—TECHNICAL CORRECTIONS AND GENERAL TECHNICAL AND CLERICAL AMENDMENTS

SEC. 1621. TECHNICAL AMENDMENTS TO CONFORM REFERENCES TO CREATION OF DEPARTMENT OF VETERANS AFFAIRS

(a) TITLE 10 UNITED STATES CODE.—Title 10, United States Code, is amended as follows:

(1) The following sections are amended by striking out "Veterans' Administration" and inserting in lieu thereof "Department of Veterans Affairs": sections 176(a)(3), 772(g), 1174(h)(2), 1201(3)(B), 1203(4)(A), 1203(4)(B), 1203(4)(C), 1204(4)(B), 1206(4), 1209, 1210(c), 1210(d), 1210(e), 1212(c), 1218(a)(1), 1431(b)(1), 1433 (in two places), 1441, 1449, 1450(h), 1452(g)(1), 1452(g)(5), 1476(b), 2641(a), 2641(b)(1) (in two places), 2641(d)(2), 4342(a)(1), 4621(d),

4683(a)(1), 4713(c), 6954(a)(1), 7603, 9342(a)(1), 9621(d), and 9713(c).

(2) The following sections are amended by striking out "Administrator of Veterans' Affairs" and inserting in lieu thereof "Secretary of Veterans Affairs": sections 1074(b), 1216(c), 1476(a)(2), 1477(b)(5)(C), 1480(b), 1480(c), 1552(e), 1553(a), 1553(c), 1554(c), 2006(d), 2641(b) (in two places), and 6160(b).

(3) Section 1086(g) is amended by striking out "Veterans' Administration facilities" and inserting in lieu thereof "facilities of the Department of Veterans Affairs".

(4) Sections 1168(b) and 1218(c) are amended by striking out "Veterans' Administration facility" and inserting in lieu thereof "facility of the Department of Veterans Affairs".

(5) Section 1480(c) is amended by striking out "the Secretary or the Administrator" and inserting in lieu thereof "the Secretary concerned or the Secretary of Veterans Affairs".

(6) Section 2006(d) is amended by striking out "the Administrator" in the second sentence and inserting in lieu thereof "the Secretary of Veterans Affairs".

(7)(A) The heading of section 2185 is amended to read as follows:

"§ 2185. Programs to be consistent with programs administered by the Department of Veterans Affairs".

(B) The item relating to such section in the table of sections at the beginning of chapter 110 is amended to read as follows:

"2185. Programs to be consistent with programs the Department of Veterans Affairs.".

(8) Section 2641(b)(1) is amended by striking out "the Administrator requests" and inserting in lieu thereof "the Secretary of Veterans Affairs requests".

(9) Section 2679 is amended—

(A) in subsection (a)—

(i) by striking out "Administrator of Veterans' Affairs" and inserting in lieu thereof "Secretary of Veterans Affairs";

(ii) by inserting "concerned" after "Secretary" the second and third places it appears; and

(iii) by striking out "the Administrator," and inserting in lieu thereof "the Secretary of Veterans Affairs," and

(B) in subsection (c), by striking out "the Administrator" and inserting in lieu thereof "the Secretary of Veterans Affairs".

(10) The text of each of sections 3446 and 8446 is amended to read as follows:

"The President may retain on active duty a disabled officer until—

"(1) the physical condition of the officer is such that the officer will not be further benefited by retention in a military hospital or a medical facility of the Department of Veterans Affairs; or

"(2) the officer is processed for physical disability benefits as provided by law.".

(b) TITLE 37 UNITED STATES CODE.—Title 37, United States Code, is amended as follows:

(1) Section 602(b)(5) is amended by striking out "Veterans' Administration" and inserting in lieu thereof "Department of Veterans Affairs".

(2) Section 603 is amended by striking out "Administrator of Veterans' Affairs" and inserting in lieu thereof "Secretary of Veterans Affairs".

SEC. 1622. MISCELLANEOUS TECHNICAL AND CLERICAL AMENDMENTS TO TITLE 10, UNITED STATES CODE

(a) CORRECTION OF DUPLICATE SECTION NUMBERS.—The second section 7313 of title 10, United States Code (enacted by section 1225 of Public Law 100-456), is redesignated as section 7314, and the item relating to that section in the table of sections at the beginning of chapter 633 of such title is revised to reflect that redesignation.

(b) TRANSFER AND REDESIGNATION OF SECTION.—(1) Section 975 of title 10, United States Code, is transferred to chapter 141, inserted after section 2389, and redesignated as section 2390.

(2) The table of sections at the beginning of such chapter is amended by inserting after the item relating to section 2389 the following new item:

"2390. Prohibition on the sale of certain defense articles from the stocks of the Department of Defense.".

(3) The table of sections at the beginning of chapter 49 of such title is amended by striking out the item relating to section 975.

(c) PUNCTUATION AND CAPITALIZATION CORRECTIONS.—Title 10, United States Code, is further amended as follows:

(1) Section 113(j)(2)(B) is amended by striking out "Five-Year Defense Program" and inserting in lieu thereof "five-year defense program".

(2) The item relating to section 421 in the table of sections at the beginning of chapter 21 is amended to read as follows:

"421. Funds for foreign cryptologic support.".

(3) Section 421(c) is amended—

(A) by inserting "of Representatives" after "of the House"; and

(B) by striking out "National Security Act of 1947, as amended, and funds" and inserting in lieu thereof "National Security Act of 1947 (50 U.S.C. 413 et seq.). Funds".

(4) Section 1482(e) is amended by striking out "chapter 10, title 37" and inserting in lieu thereof "chapter 10 of title 37".

(5) Section 2325(d) is amended by striking out "previously-developed" and inserting in lieu thereof "previously developed".

(6) Subparagraph (D) of section 2326(g)(1) is amended by striking out "(D) Congressionally-mandated" and inserting in lieu thereof "(D) Congressionally mandated".

(7) Sections 2463(b) and 2464(b)(3)(A) are amended by striking out "Committee on Appropriations" and inserting in lieu thereof "Committees on Appropriations".

(8) Section 7309(a) is amended by inserting a comma after "armed forces".

(d) REVISION TO PART HEADING.—

(1) The heading of part III of subtitle A of title 10, United States Code, is amended to read as follows:

"PART III—TRAINING AND EDUCATION".

(2) The item relating to that part in the table of chapters at the beginning of subtitle A of that title is amended to read as follows:

"PART III—TRAINING AND EDUCATION"

(e) DEFINITIONS.—Title 10, United States Code, is further amended as follows:

(1) Section 138(a)(2) is amended—

(A) by striking out "(A) 'Operational'" and inserting in lieu thereof "(A) The term 'operational' "; and

(B) by striking out "(B) 'Major' " and inserting in lieu thereof "(B) The term 'major'".

(2) Section 1032(d) is amended—

(A) by striking out "(1) 'Dependent" and inserting in lieu thereof "(1) The term 'dependent"; and

(B) by inserting "The term" after "(2)".

(3) Section 1094(d) is amended—

(A) by striking out "(1) 'License" and inserting in lieu thereof "(1) The term 'license"; and

(B) by striking out "(2) 'Health-care" and inserting in lieu thereof "(2) The term 'health-care".

(4) Section 1586(g) is amended—

(A) by striking out "For the purposes of this section—" and inserting in lieu thereof "In this section:";

(B) by inserting "The term" in paragraphs (1) and (2) after the paragraph designation; and

(C) by striking out "; and" at the end of paragraph (1) and inserting in lieu thereof a period.

(5) Sections 1095(g), 4348(d), and 9348(d) are amended by inserting "the term" after "In this section,".

(6) Section 1408(a) is amended—

(A) by inserting "The term" in each paragraph after the paragraph designation; and

(B) by revising the first word after the open quotation marks in each paragraph so that the initial letter of that word is lower case.

(7) Section 1461(b) is amended by inserting "the term" after "In this chapter,".

(8) Sections 5441, 6964(a), and 7081(a) are amended by inserting ", the term" after "In this chapter".

(f) AMENDMENTS FOR STYLISTIC CONSISTENCY.—Title 10, United States Code, is further amended as follows:

(1) Section 2575(a) is amended by striking out "of this section" in the first sentence.

(2) Section 7422(c)(2)(B) is amended by striking out "one hundred eighty days prior to" and inserting in lieu thereof "180 days before".

(g) DATE OF ENACTMENT REFERENCE.—Section 6334(a) of title 10, United States Code, is amended by striking out "the date of the enactment of this section" and inserting in lieu thereof "December 4, 1987".

(h) OBSOLETE PROVISIONS.—(1) Section 194 of title 10, United States Code, is amended by striking out "After September 30, 1989, the" in subsections (a) and (b) and inserting in lieu thereof "The".

(2) Section 601 of Public Law 99-433 (10 U.S.C. 194 note) is amended by striking out "Effective on October 1, 1988, the" in subsection (a)(1) and inserting in lieu thereof "The".

SEC. 1623. AMENDMENTS TO SECTION 8125 OF PUBLIC LAW 100-463

Section 8125 of Public Law 100-463 (10 U.S.C. 113 note; 102 Stat. 2270-41) is amended as follows:

(1) Subsection (c) is amended—

(A) by striking out "incude" and inserting in lieu thereof "include";

(B) by inserting a comma after "burdensharing";

(C) by striking out "assistance costs: *Provided*, That the" and inserting in lieu thereof "assistance costs. The"; and

(D) by striking out "Department of" and inserting in lieu thereof "Secretaries of".

(2) Subsection (d) is amended—

(A) by striking out "in the budgets" and inserting in lieu thereof "in each budget";

(B) by striking out "for fiscal years after fiscal year 1989" and inserting in lieu thereof "(1)"; and

(C) by inserting "(2)" after "military units, and".

(3) Subsection (f) is amended—

(A) in the first sentence, by striking out "after fiscal year 1989"; and

(B) in the second sentence—

(i) by striking out "provided for" and inserting in lieu thereof "in";

(ii) by inserting "(1)" after "if and when"; and

(iii) by inserting "(2)" after "that nation, and".

(4) Subsection (g) is amended—

(A) by striking out "Department of Defense" before "budget submissions" in paragraph (1);

(B) by striking out "1989, and shall detail: (A) a description of" in paragraph (1) and inserting in lieu thereof "1989 and shall set forth a detailed descripton of (A)";

(C) by striking out "the House and Senate" in paragraph (2) and inserting in lieu thereof "the Senate and House of Representatives,"; and

(D) by inserting "outside the United States" in paragraph (2) after "duty stations ashore".

SEC. 1624. REPORT ON RECURRING PROVISIONS OF DEFENSE APPROPRIATIONS ACT

(a) REPORT.—Not later than April 1, 1990, the Secretary of Defense shall submit to the defense committees of Congress a report on recurring provisions of law enacted in the General Provisions title of the Department of Defense Appropriations Act, 1990.

(b) MATTERS TO BE INCLUDED.—With respect to each provision covered by the report, the report shall indicate the following:

(1) When the provision (or a substantially similar provision) was first included in an annual Department of Defense Appropriations Act.

(2) The original policy reason (as nearly as the Secretary can determine) for the inclusion of such a provision.

(3) The Secretary's assessment as to whether that reason still pertains and whether there are additional policy reasons for the

continuing inclusion of the provision in annual Acts making appropriations for the Department of Defense.

(4) The Secretary's recommendation as to whether the policy of that provision should continue to be provided by law and, if the recommendation is that the policy should not continue to be provided by law, a detailed statement of the reasons for such recommendation.

(5) In the case of each provision which the Secretary recommends under paragraph (4) should continue to be provided by law, the recommendation of the Secretary as to whether such provision should continue to be included in annual Acts making appropriations for the Department of Defense or whether it would be desirable for Congress to enact such provision as permanent law and, if the recommendation is that the policy should not be enacted as permanent law, a detailed statement of the reasons for such recommendation.

(c) DRAFT OF PROPOSED LEGISLATION.—The report shall include a draft of proposed legislation for the codification into title 10, United States Code, or other appropriate statutes of those provisions covered by the report which the Secretary recommends (under subsection (b)(5)) would be desirable for Congress to enact as permanent law.

(d) UPDATE OF EARLIER REPORT.—The report shall be an update of the report submitted by the General Counsel of the Department of Defense pursuant to section 1267 of the Department of Defense Authorization Act, 1984 (Public Law 98-94; 97 Stat. 705).

(e) DEFINITIONS.—For purposes of this section:

(1) The term "defense committees of Congress" means the Committees on Armed Services and the Committees on Appropriations of the Senate and House of Representatives.

(2) The term "recurring provision" means a provision of an appropriatons Act which (1) is not permanent law, and (2) has been enacted in substantially the same form in previous Acts making appropriations for the same purpose.

PART D—MISCELLANEOUS

SEC. 1631. STUDY OF PROTECTION OF UNITED STATES CIVIL AVIATION FROM TERRORIST ACTIVITIES OVERSEAS

(a) STUDY.—The Secretary of Defense shall conduct a study on the feasibility and desirability of the United States, at the request of a foreign government, deploying military personnel or providing military equipment in areas under the jurisdiction of that government to assist that government in the protection of United States civil aviation interests from terrorist activity. The study should also undertake to determine what programs of the Department of Defense (1) have application to enhancing civil aviation security, and (2) could be quickly adopted by the Federal Aviation Administration for that purpose.

(b) RESEARCH AND DEVELOPMENT MATTERS TO BE STUDIED.—The study shall include a review of United States Government programs concerning research and development in areas relating to explosives detection, terrorist identification, and anti-terrorist operations.

(c) INTERAGENCY COORDINATION.—The study shall be conducted in consultation with the Secretary of State and the Administrator of the Federal Aviation Administration.

(d) SUBMISSION OF REPORT.—The Secretary shall submit to Congress a report on the study (including the Secretary's findings, conclusions, and recommendations) within six months after the date of enactment of this Act.

SEC. 1632. DEDICATION OF CORRIDOR IN PENTAGON TO SERVICE MEMBERS WHO SERVED IN SPACE-RELATED ACTIVITIES

It is the sense of Congress that the Secretary of Defense should dedicate an appropriate corridor in the Pentagon building to commemorate the service of the members of the Armed Forces who have served in space-related activities, including service with the National Aeronautics and Space Administration, the United States Space Command, and the Strategic Defense Initiative Organization.

SEC. 1633. DELEGATION AUTHORITY WITH RESPECT TO ADMIRALTY CLAIMS BY OR AGAINST THE UNITED STATES

Sections 4802(c), 4803(c), 7622(c), 7623(c), 9802(c), and 9803(c) of title 10, United States Code, are each amended by striking out "$10,000" and inserting in lieu thereof "$100,000".

SEC. 1634. AUTHORITY TO ACCEPT VOLUNTARY SERVICES FOR NATURAL RESOURCES PROGRAMS

Section 1588(a) of title 10, United States Code, is amended by striking out "a museum" and inserting in lieu thereof "a museum, a natural resources program,".

SEC. 1635. FINDINGS AND CONGRESSIONAL DECLARATIONS CONCERNING SERVICE IN THE NATIONAL GUARD AND RESERVES

(a) FINDINGS.—Congress makes the following findings:

(1) Citizens and nationals of the United States have taken up arms to defend their homes and communities, and to secure and preserve the independence of the United States, from the earliest days of the Nation.

(2) The concept of the citizen-soldier has been a keystone of the defense strategy of the Nation.

(3) Members of the National Guard and Reserves have served proudly and honorably in every war or conflict involving United States Armed Forces.

(4) The Total Force Policy of the United States, by placing significant portions of wartime mission capability and selected day-to-day operations in the National Guard and Reserve, has reinforced the proposition that the Guard and Reserve are essential elements of the national defense establishment of the United States.

(5) During the 1980's, Congress and the Department of Defense have demonstrated their increasing reliance and confidence in the National Guard and Reserve by expanding missions, increasing training requirements, and providing new state-of-the-art weapons and support equipment.

(6) The National Guard and Reserve represent a very cost-effective arm of the Total Force, preserving combat capability and retaining valuable trained human resources, especially during periods of austere defense budgets.

(7) Participation by citizens in the National Guard and Reserve enhances the military readiness of the United States and demonstrates the resolve of the citizenry to protect and preserve American values.

(8) Participation in the National Guard and Reserve improves the economy by providing individuals with job skills and education.

(b) CONGRESSIONAL DECLARATIONS.—In light of the findings in subsection (a), Congress—

(1) reaffirms that service in the National Guard and Reserve is in the highest traditions of military service to the country and acknowledges the valuable contribution that the men and women who serve in the National Guard and Reserve are making to their country;

(2) encourages Guard and Reserve participation by all elements of American society; and

(3) continues to support reliance on the National Guard and Reserve as full partners in the Total Force.

SEC. 1636. EXPANSION OF SCOPE OF CIVIL RESERVE AIR FLEET ENHANCEMENT PROGRAM

(a) DEFINITIONS.—(1) Paragraph (2) of section 9511 of title 10, United States Code, is amended to read as follows:

"(2) The term 'passenger-cargo combined aircraft' means a civil aircraft equipped so that its main deck can be used to carry both passengers and property (including mail) simultaneously.".

(2) Paragraph (5) of such section is amended to read as follows:

"(5) The term 'cargo-convertible aircraft' means a passenger aircraft equipped or designed so that all or substantially all of the main deck of the aircraft can be readily converted for the carriage of property or mail.".

(3) Paragraph (8) of such section is amended by striking out "a civil aircraft" in clause (A) and all that follows through "defense purposes" and inserting in lieu thereof "a new or existing aircraft and who contracts with the Secretary to modify that aircraft by including or incorporating specified defense features".

(4) Such section is further amended by adding at the end the following new paragraph:

"(12) The term 'defense feature' means equipment or design features included or incorporated in a civil aircraft which ensures the interoperability of such aircraft with the Department of Defense airlift system. Such term includes any equipment or design feature which enables such aircraft to be readily modified for use as a cargo-convertible, cargo-capable, or passenger-cargo combined aircraft.".

(b) CONTRACT AUTHORITY.—Section 9512 of such title is amended to read as follows:

"§ 9512. Contracts for the inclusion or incorporation of defense features

Aircraft and air carriers.

"(a) Subject to the provisions of chapter 137 of this title, and to the extent that funds are otherwise available for obligation, the Secretary—

"(1) may contract with any citizen of the United States for the inclusion or incorporation of defense features in any new or existing aircraft to be owned or controlled by that citizen; and

"(2) may contract with United States aircraft manufacturers for the inclusion or incorporation of defense features in new aircraft to be operated by a United States air carrier.

"(b) Each contract entered into under subsection (a) shall include the terms required by section 9513 of this title and a provision that

requires the contractor to repay to the United States a percentage (to be established in the contract) of any amount paid by the United States to the contractor under the contract with respect to any aircraft if—

"(1) the aircraft is destroyed or becomes unusable, as defined in the contract;

"(2) the defense features specified in the contract are rendered unusable or are removed from the aircraft;

"(3) control over the aircraft is transferred to any person that is unable or unwilling to assume the contractor's obligations under the contract; or

"(4) the registration of the aircraft under section 501 of the Federal Aviation Act of 1958 (49 U.S.C. App. 1401) is terminated for any reason not beyond the control of the contractor.

"(c)(1) A contract under subsection (a) for the inclusion or incorporation of defense features in an aircraft may include a provision authorizing the Secretary—

"(A) to contract, with the concurrence of the contractor, directly with another person for the performance of the work necessary for the inclusion or incorporation of defense features in such aircraft; and

"(B) to pay such other person directly for such work.

"(2) A contract entered into pursuant to paragraph (1) may include such specifications for work and equipment as the Secretary considers necessary to meet the needs of the United States.".

(c) CLERICAL AMENDMENTS.—(1) The heading of section 9513 is amended to read as follows:

"§ 9513. Commitment of aircraft to the Civil Reserve Air Fleet"

(2) The items relating to sections 9512 and 9513 in the table of sections at the beginning of chapter 931 of title 10, United States Code, are amended to read as follows:

"9512. Contracts for the inclusion or incorporation of defense features.
"9513. Commitment of aircraft to the Civil Reserve Air Fleet.".

SEC. 1637. REPORT ON CERTAIN PERSONS PARTICIPATING IN RADIATION-RISK ACTIVITIES

(a) REPORT.—The Secretary of Defense shall prepare, in consultation with the Secretary of Veterans Affairs, a report identifying the number of persons who, while serving on active-duty for training, inactive-duty training, or as a military technician of the National Guard, participated in a radiation-risk activity, but are not covered under section 312(c) of title 38, United States Code (as added by the Radiation-Exposed Veterans Compensation Act of 1988; Public Law 100-321). For purposes of the report, the term "radiation-risk activity" has the meaning given that term by section 312(c)(4) of such title.

(b) DEADLINE.—The report required by subsection (a) shall be submitted to Congress not later than February 15, 1990.

SEC. 1638. CONGRESSIONAL FINDINGS AND SENSE OF CONGRESS CONCERNING KIDNAPPING AND MURDER OF LIEUTENANT COLONEL HIGGINS

(a) FINDINGS.—Congress makes the following findings:

(1) The radical, Lebanese-based terrorist organization which calls itself the "Organization of the Oppressed of the Earth" announced on July 31, 1989, that it had executed Lieutenant

Colonel William R. Higgins, a United States Marine assigned for service with the United Nations in the U.N. Truce Supervision Organization (UNTSO), who was kidnapped in southern Lebanon on February 17, 1988.

(2) That organization claimed to have executed Lieutenant Colonel Higgins in response to the capture on July 28, 1989, by Israeli commandos of a radical Muslim Shiite leader, Sheik Abdul Karim Obeid, believed to be associated with that organization.

Abdul Karim Obeid.

(3) That organization released to certain news agencies a videotape showing Lieutenant Colonel Higgins killed by hanging, though many forensic experts believe the videotape indicates that the person shown did not die from hanging.

(4) The kidnapping of Lieutenant Colonel Higgins, who was engaged only in carrying out the legitimate United Nations peacekeeping activities to which he had been assigned, was wholly unjustified.

(5) It is absolutely clear that the kidnapping and the murder of Lieutenant Colonel Higgins were outrageous acts of terrorism that deserve the condemnation of all civilized people.

(6) There is strong evidence that the Government of Iran has supported the organization responsible for Lieutenant Colonel Higgins' kidnapping and murder, as well as other terrorist and extremist forces inside Lebanon and throughout the Middle East.

(b) SENSE OF CONGRESS.—It is the sense of Congress that—

(1) Congress is outraged by the kidnapping and murder of Lieutenant Colonel Higgins and condemns those actions as barbaric, cowardly, and utterly incompatible with the standards of conduct upheld by civilized people;

(2) the President should use all available resources of the United States Government, including diplomatic and intelligence channels, to determine the identity of those persons responsible for the kidnapping and murder and the details regarding those terrorist acts;

(3) the President should determine whether it would be possible to identify and bring to justice, or to retaliate against, those persons responsible for the kidnapping and murder in a manner consistent with United States and international legal requirements that would reduce the risk to Americans from terrorism;

(4) the President should take strong and decisive action, possibly including the use of military force, to prevent or respond to acts of international terrorism. Such actions should be taken in concert with other nations where practicable, but the President should be prepared to act unilaterally, if necessary;

(5) the United States should make clear to the new leadership in Iran (A) that the United States will not tolerate a continuation of past policies of support of groups which undertake terrorist actions against American citizens or direct assaults on American vital interests in the Middle East or elsewhere, and (B) that if such support should continue, the United States will hold the authorities in Iran accountable for that support and act accordingly;

(6) the Secretary General of the United Nations should take all necessary steps to help ensure that the body of Lieutenant Colonel Higgins is returned to his country and family and that

those responsible for his kidnapping and murder are immediately brought to justice;

(7) the President should engage in urgent and continuing diplomatic contacts with all other governments concerning their policies and actions which might have relevance to the interests of the United States Government or increase the vulnerability of the United States citizens to attacks by terrorists; and

(8) the President should continue to consult with other nations to ensure international cooperation and coordination to end terrorist attacks.

SEC. 1639. REPORTS ON CONTROLS ON TRANSFER OF MISSILE TECHNOLOGY AND CERTAIN WEAPONS TO OTHER NATIONS

(a) REQUIREMENT FOR SUBMISSION OF PREVIOUSLY REQUIRED REPORT.—Section 901(c) of the National Defense Authorization Act for Fiscal Years 1988 and 1989 (Public Law 100-180; 101 Stat. 1135) is amended by striking out "February 1, 1988" and inserting in lieu thereof "60 days after the date of enactment of the National Defense Authorization Act for Fiscal Year 1990".

(b) REPORT ON MANPOWER REQUIRED TO IMPLEMENT EXPORT CONTROLS ON CERTAIN WEAPONS TRANSFERS.—(1) Not later than February 1, 1990, the Secretary of Defense shall submit to Congress a report relating to Department of Defense manpower required to implement export controls on certain weapons transfers. In the report, the Secretary shall—

(A) identify the role of the Department of Defense in implementing export controls on nuclear, chemical, and biological weapons;

(B) describe the number and skills of personnel currently available in the Department of Defense to perform such role; and

(C) assess the adequacy of the level of personnel resources described in subparagraph (B) for the effective performance of such role.

(2) The report required by paragraph (1) shall identify the total number of current Department of Defense full-time employees or military personnel, and the grades of such personnel and the special knowledge, experience, and expertise of such personnel, required to carry out each of the following activities of the Department in implementing export controls on nuclear, chemical, and biological weapons:

(A) Review of private-sector export license applications and government-to-government cooperative activities.

(B) Intelligence analysis and activities.

(C) Policy coordination.

(D) International liaison activity.

(E) Technology security operations.

(F) Technical review.

(3) The report shall include the Secretary's assessment of the adequacy of staffing in each of the categories specified in subparagraphs (A) through (F) of paragraph (2) and shall make recommendations concerning measures, including legislation if necessary, to eliminate any identified staffing deficiencies and to improve interagency coordination with respect to implementing export controls on nuclear, chemical, and biological weapons.

(c) REPORT ON MISSILE TECHNOLOGY CONTROL REGIME ENFORCEMENT.—(1) The Secretary of Defense shall include in the report under subsection (b) information concerning the Missile Technology Control Regime (MTCR). In the report, the Secretary shall review the existing regulations covering the issues addressed by the MTCR and shall assess whether those regulations—

(A) appropriately cover each item listed in the MTCR annex; and

(B) sufficiently stress consideration of ultimate end use of an item as a factor in issuance of export licenses with respect to that item.

(2) In the report, the Secretary shall also assess whether, in the case of a request for an export license involving a country that is considered to be a suspect country for purposes of the regime, or involving a commodity that is considered to be a suspect commodity for purposes of the regime, sufficient information on that request is brought to the attention of the Department of Defense before such a license is issued and, if not, what measures could be taken to improve Department of Defense oversight of the issuance of export licenses in such cases.

(3) In the report, the Secretary may also address whatever other initiatives for the enforcement of the regime the Secretary considers would help strengthen the regime.

SEC. 1640. REVIEWS AND REPORTS ON DECONTROL OF CERTAIN PERSONAL COMPUTERS

(a) REVIEWS.—The Secretary of Defense and the Secretary of Commerce shall each conduct an independent review on the foreign availability of the personal computers known as AT-compatible microcomputers. Each Secretary, in conducting his review, shall, at a minimum, determine the availability of such microcomputers from sources other than member nations of the Coordinating Committee for Multilateral Export Controls or other nations that control the export of such computers. The Secretary of Defense, in conducting his review, also shall assess the military significance of such microcomputers for the Soviet Union and its Warsaw Pact allies.

(b) REPORTS.—The Secretary of Defense and the Secretary of Commerce shall each submit to the Committee on Banking, Housing, and Urban Affairs of the Senate, the Committee on Foreign Affairs of the House of Representatives, and the Committees on Armed Services of the Senate and House of Representatives a report containing the results of the respective reviews required by subsection (a).

(c) DEADLINE FOR REPORTS.—The reports required by subsection (b) shall be submitted not later than January 1, 1990.

SEC. 1641. ANNUAL DEPARTMENT OF DEFENSE CONVENTIONAL STANDOFF WEAPONS MASTER PLAN AND REPORT ON STANDOFF MUNITIONS

(a) ANNUAL SUBMISSION OF MASTER PLAN FOR JOINT STANDOFF WEAPONS.—Not later than March 31 of each year, the Secretary of Defense shall submit to the congressional defense committees a plan (known as a "Department of Defense Conventional Standoff Weapons Master Plan") for the development of standoff weapons which can adequately address the needs of more than one of the Armed Forces. Each such report shall include a description of all technology

10 USC 2431 note.

Science and technology.

base projects that could contribute to the fielding of standoff weapons.

(b) UNIFIED COMMANDERS REPORTS ON STANDOFF MUNITIONS.—(1) In the first report under subsection (a) submitted after the enactment of this Act, the Secretary of Defense shall include the reports of the unified commanders submitted to the Secretary pursuant to paragraph (2).

(2) The Secretary shall require the commander of each unified combatant command to submit to the Secretary a report on the results of the study conducted by the commander pursuant to subsection (c). Such reports shall be submitted to the Secretary at such time as specified by the Secretary so that they may be included in the report of the Secretary referred to in paragraph (1).

(c) STUDY OF STANDOFF MUNITIONS BY COMMANDERS OF UNIFIED COMBATANT COMMANDS.—The Secretary of Defense shall require the commander of each unified combatant command to conduct a study of the status of forces assigned to his command in terms of the standoff munitions available to those forces and the survivability of the launching platforms in the absence of standoff munitions. Each such study shall include the following:

(1) The commander's evaluation of the threat posed to combat aircraft under his command by potential enemy forces in his region of responsibility and the extent to which those aircraft are vulnerable to attack.

(2) The commander's evaluation of the current capabilities of those aircraft that are programmed to be assigned to the commander in the event of conflict in his region of responsibility to carry out standoff attacks.

(3) The commander's evaluation of the adequacy of the inventories of munitions in general, and of standoff munitions in particular, in the component forces that would be assigned to the commander in time of war.

(4) The commander's evaluation of the extent to which the survivability of combat aircraft is threatened by the absence of standoff munitions and a statement of the priority which the commander would give to providing standoff munitions for such aircraft to improve their survivability.

(5) Identification of those standoff munitions programs the commander considers most promising for the improvement of the survivability of combat aircraft.

Military Construction Authorization Act for Fiscal Years 1990 and 1991.

DIVISION B—MILITARY CONSTRUCTION AUTHORIZATIONS

SEC. 2001. SHORT TITLE

This division may be cited as the "Military Construction Authorization Act for Fiscal Years 1990 and 1991".

TITLE XXI—ARMY

PART A—FISCAL YEAR 1990

SEC. 2101. AUTHORIZED ARMY CONSTRUCTION AND LAND ACQUISITION PROJECTS

(a) INSIDE THE UNITED STATES.—The Secretary of the Army may acquire real property and may carry out military construction

projects in the amounts shown for each of the following installations and locations inside the United States:

ALABAMA

Anniston Army Depot, $2,300,000.
Fort McClellan, $2,750,000.
Redstone Arsenal, $18,390,000.
Fort Rucker, $3,600,000.

ALASKA

Fort Richardson, $3,350,000.
Fort Wainwright, $14,800,000.

ARIZONA

Fort Huachuca, $9,900,000.
Yuma Proving Ground, $11,400,000.

CALIFORNIA

Fort Irwin, $4,950,000.
Fort Ord, $2,450,000.
Sacramento Army Depot, $3,900,000.

COLORADO

Fitzsimons Army Medical Center, $2,100,000.
Fort Carson, $4,700,000.

DISTRICT OF COLUMBIA

Walter Reed Army Medical Center, $11,000,000.

FLORIDA

Key West Naval Air Station, $6,100,000.

GEORGIA

Fort Benning, $12,146,000.
Fort Gordon, $4,000,000.
Fort Stewart, $5,200,000.

HAWAII

Fort Shafter, $9,300,000.
Schofield Barracks, $10,000,000.

ILLINOIS

Melvin Price Support Center, $3,750,000.
Savanna Army Depot, $850,000.

INDIANA

Fort Benjamin Harrison, $359,000.

KANSAS

Fort Leavenworth, $3,000,000.
Fort Riley, $12,680,000.

KENTUCKY

Fort Campbell, $30,450,000.
Fort Knox, $13,400,000.

LOUISIANA

Fort Polk, $23,350,000.

MARYLAND

Aberdeen Proving Ground, $1,700,000.
Fort Detrick, $1,300,000.
Fort Meade, $6,200,000.
Fort Ritchie, $630,000.

MASSACHUSETTS

Fort Devens, $3,550,000.

MISSOURI

Fort Leonard Wood, $10,450,000.

NEW JERSEY

Fort Monmouth, $8,600,000.
Picatinny Arsenal, $11,800,000.

NEW YORK

Fort Drum, $70,600,000.

NORTH CAROLINA

Fort Bragg, $65,300,000.

OKLAHOMA

Fort Sill, $13,170,000.
McAlester Army Ammunition Plant, $2,200,000.

PENNSYLVANIA

New Cumberland Army Depot, $14,000,000.

SOUTH CAROLINA

Fort Jackson, $23,000,000.

TEXAS

Corpus Christi Army Depot, $5,200,000.
Fort Bliss, $16,600,000.
Fort Hood, $21,400,000.

UTAH

Dugway Proving Ground, $2,400,000.

VIRGINIA

Fort Belvoir, $23,000,000.
Fort Lee, $10,050,000.
Fort Monroe, $1,100,000.
Fort Story, $3,350,000.

WASHINGTON

Fort Lewis, $770,000.

VARIOUS LOCATIONS

Classified Location, $3,400,000.
Classified Location, $600,000.
Classified Location, $3,900,000.

(b) OUTSIDE THE UNITED STATES.—The Secretary of the Army may acquire real property and may carry out military construction projects in the amounts shown for each of the following installations and locations outside the United States:

GERMANY

Ansbach, $2,900,000.
Augsburg, $600,000.
Grafenwoehr, $6,500,000.
Hanau, $14,800,000.
Hohenfels, $4,950,000.
Mainz, $26,400,000.
Stuttgart, $9,400,000.
Wuerzburg, $12,000,000.
Various locations, $4,150,000.

KOREA

H-220 Heliport, $4,050,000.

KWAJALEIN ATOLL

Kwajalein, $9,500,000.

PUERTO RICO

Fort Buchanan, $690,000.

TURKEY

Location 276, $1,950,000.

CLASSIFIED LOCATIONS

Classified locations, $6,100,000.

SEC. 2102. FAMILY HOUSING

(a) CONSTRUCTION AND ACQUISITION.—The Secretary of the Army may construct or acquire family housing units (including land acquisition), using amounts appropriated pursuant to section

2104(a)(6)(A), at the following installations and locations in the number of units, and in the amounts, shown for each installation:

Fort Rucker, Alabama, two units, $400,000.
Helemano, Hawaii, ninety units, $10,322,000.
Hickam Air Force Base, Hawaii, twenty units, $2,500,000.
Kaneohe, Hawaii, forty units, $4,700,000.
Hawaii, various locations, one hundred and eighty units, $18,000,000.
Fort Lee, Virginia, one unit, $210,000.

(b) PLANNING AND DESIGN.—The Secretary of the Army may, using amounts appropriated pursuant to section 2104(a)(6)(A), carry out architectural and engineering services and construction design activities with respect to the construction or improvement of family housing units in an amount not to exceed $1,349,000.

(c) WAIVER OF SPACE LIMITATIONS.—(1) The family housing units authorized by subsection (a) to be constructed at Fort Rucker, Alabama, and at Fort Lee, Virginia, shall be constructed for assignment to general officers, who hold positions as commanders or who hold special command positions (as designated by the Secretary of Defense), and notwithstanding section 2826 of title 10, United States Code, the units may be constructed with the net floor area of not more than 3,000 square feet.

(2) For the purpose of this subsection, the term "net floor area" has the meaning given that term by section 2826(f) of title 10, United States Code.

SEC. 2103. IMPROVEMENTS TO MILITARY FAMILY HOUSING UNITS

(a) IN GENERAL.—Subject to section 2825 of title 10, United States Code, the Secretary of the Army may, using amounts appropriated pursuant to section 2104(a)(6)(A), improve existing military family housing in an amount not to exceed $36,329,000.

(b) WAIVER OF MAXIMUM PER UNIT COST FOR CERTAIN IMPROVEMENT PROJECTS.—Notwithstanding the maximum amount per unit for an improvement project under section 2825(b) of title 10, United States Code, the Secretary of the Army may—

(1) carry out projects to improve existing military family housing units, in the number of units shown and in the amount shown, at—

(A) Fort Leavenworth, Kansas, one unit, $95,900, of which $86,900 is for concurrent repairs; and

(B) Fort Monmouth, New Jersey, one hundred and twenty-four units, $6,500,000; and

(2) carry out projects to improve four units at Fort Sill, Oklahoma, the improvement of which was authorized by the Military Construction Authorization Act, 1989 (division B of Public Law 100-456; 102 Stat. 2087), in the amount of $178,088.

SEC. 2104. AUTHORIZATION OF APPROPRIATIONS, ARMY

(a) IN GENERAL.—Funds are hereby authorized to be appropriated for fiscal years beginning after September 30, 1989, for military construction, land acquisition, and military family housing functions of the Department of the Army in the total amount of $2,239,165,000 as follows:

(1) For military construction projects inside the United States authorized by section 2101(a), $554,445,000.

(2) For military construction projects outside the United States authorized by section 2101(b), $103,990,000.

(3) For the construction of the Central Distribution Center, Phase III, Red River Army Depot, Texas, as authorized by section 2101(a) of the Military Construction Authorization Act, 1989 (division B of Public Law 100-456; 102 Stat. 2087), $39,000,000.

(4) For unspecified minor construction projects authorized under section 2805 of title 10, United States Code, $11,000,000.

(5) For architectural and engineering services and construction design under section 2807 of title 10, United Sates Code, $74,420,000.

(6) For military family housing functions—

(A) for construction and acquisition of military family housing and facilities, $73,810,000; and

(B) for support of military family housing (including the functions described in section 2833 of title 10, United States Code), $1,377,400,000, of which not more than $319,142,000 may be obligated or expended for the leasing of military family housing worldwide.

(7) For the Homeowners Assistance Program as authorized by section 2832 of title 10, United States Code, $5,100,000, to remain available until expended.

(b) LIMITATION ON TOTAL COST OF CONSTRUCTION PROJECTS.—Notwithstanding the cost variations authorized by section 2853 of title 10, United States Code, and any other cost variation authorized by law, the total cost of all projects carried out under section 2101 of this Act may not exceed the total amount authorized to be appropriated under paragraphs (1) and (2) of subsection (a).

SEC. 2105. EXTENSION OF CERTAIN PRIOR YEAR AUTHORIZATIONS

(a) EXTENSION OF AUTHORIZATION OF CERTAIN FISCAL YEAR 1985 PROJECTS.—Notwithstanding the provisions of section 607(a) of the Military Construction Authorization Act, 1985 (Public Law 98-407; 98 Stat. 1514), authorization for the following projects authorized in section 101 of that Act, as extended by section 2107(b) of the Military Construction Authorization Act, 1987 (division B of Public Law 99-661; 100 Stat. 4020), section 2105(a) of the Military Construction Authorization Act, 1988 and 1989 (division B of Public Law 100-180; 101 Stat. 1184), and section 2106(a) of the Military Construction Authorization Act, 1989 (Public Law 100-456; 102 Stat. 2092) shall remain in effect until October 1, 1990, or the date of enactment of an Act (other than this Act) authorizing funds for military construction for fiscal year 1991, whichever is later:

(1) Barracks modernization in the amount of $660,000 at Argyroupolis, Greece.

(2) Barracks modernization in the amount of $660,000 at Perivolaki, Greece.

(b) EXTENSION OF AUTHORIZATION OF CERTAIN FISCAL YEAR 1986 PROJECTS.—Notwithstanding the provisions of section 603(a) of the Military Construction Authorization Act, 1986 (Public Law 99-167; 99 Stat. 981), authorizations for the following projects authorized in sections 101 and 102 of that Act, as extended by section 2105(b) of the Military Construction Authorization Act, 1988 and 1989 (division B of Public Law 99-180; 101 Stat. 1185) and section 2106(b) of the Military Construction Authorization Act, 1989 (division B of Public Law 100-456; 102 Stat. 2092), shall remain in effect until October 1, 1990, or the date of enactment of an Act (other than this Act)

authorizing funds for military construction for fiscal year 1991, whichever is later:

(1) Modified record fire range in the amount of $2,850,000 at Nuernberg, Germany.

(2) Family housing, new construction, six units, in the amount of $596,000 at Fort Myer, Virginia.

(3) Flight simulator building in the amount of $2,900,000 at Wiesbaden, Germany.

(c) EXTENSION OF AUTHORIZATION OF CERTAIN FISCAL YEAR 1987 PROJECTS.—Notwithstanding the provisions of section 2701(a) of the Military Construction Authorization Act, 1987 (division B of Public Law 99-661; 100 Stat. 4040), authorizations for the following projects authorized in sections 2101, 2102, and 2103 of that Act, as extended by section 2106(c) of the Military Construction Authorization Act, 1989 (division B of Public Law 100-456; 102 Stat. 2092), shall remain in effect until October 1, 1990, or the date of the enactment of an Act (other than this Act) authorizing funds for military construction for fiscal year 1991, whichever is later:

(1) Aircraft maintenance hangar in the amount of $7,100,000 at Hanau, Germany.

(2) Family housing, new construction, forty units in the amount of $4,100,000 at Crailsheim, Germany.

(d) EXTENSION OF AUTHORIZATION OF CERTAIN FISCAL YEAR 1988 PROJECTS.—Notwithstanding the provisions of section 2171 of the Military Construction Authorization Act, 1988 and 1989 (division B of Public Law 100-180; 101 Stat. 1206), authorizations for the following projects authorized in sections 2101 and 2102 of that Act shall remain in effect until October 1, 1990, or the date of the enactment of an Act (other than this Act) authorizing funds for military construction for fiscal year 1991, whichever is later:

(1) Child development center in the amount of $1,050,000 at Rheinberg, Germany.

(2) Training exercise facility in the amount of $5,900,000 at Einsiedlerhof, Germany.

(3) Operations building modifications in the amount of $5,400,000 at Stuttgart, Germany.

(4) Hardstand/tactical equipment shop in the amount of $2,250,000 at Wiesbaden, Germany.

(5) Family housing, new construction, twenty-five units, in the amount of $2,200,000 at Fort A.P. Hill, Virginia.

(6) Family housing, new construction, one hundred six units, in the amount of $11,200,000 at Bamberg, Germany.

(7) Family housing, new construction, one hundred fifty-two units, in the amount of $12,600,000 at Baumholder, Germany.

(8) Troop support facility upgrade in the amount of $4,150,000 in Honduras.

(9) Wartime host nation support in the amount of $4,500,000, in Europe, various locations.

PART B—FISCAL YEAR 1991

SEC. 2121. AUTHORIZED ARMY CONSTRUCTION AND LAND ACQUISITION PROJECTS

The Secretary of the Army may acquire real property and may carry out military construction projects in the amounts shown for

each of the following installations and locations inside the United States:

ALABAMA

Anniston Army Depot, $34,300,000.

ARKANSAS

Pine Bluff Arsenal, $17,100,000.

OREGON

Umatilla Depot Activity, $45,500,000.

SEC. 2122. AUTHORIZATION OF APPROPRIATIONS, ARMY

(a) IN GENERAL.—Funds are hereby authorized to be appropriated for fiscal years beginning after September 30, 1990, for military construction, land acquisition, and military family housing functions of the Department of the Army in the total amount of $1,803,180,000 as follows:

(1) For military construction projects inside the United States authorized by section 2121, $96,900,000.

(2) For the construction of the Central Distribution Center, Phase III, Red River Army Depot, Texas, as authorized by section 2101(a) of the Military Construction Authorization Act, 1989 (division B of Public Law 100-456; 102 Stat. 2087), $39,000,000.

(3) For unspecified minor construction projects authorized under section 2805 of title 10, United States Code, $12,000,000.

(4) For architectural and engineering services and construction design under section 2807 of title 10, United States Code, $96,530,000.

(5) For support of military family housing (including the functions described in section 2833 of title 10, United States Code), $1,553,750,000, of which not more than $453,884,000 may be obligated or expended for the leasing of military family housing worldwide.

(b) LIMITATION ON TOTAL COST OF CONSTRUCTION PROJECTS.—Notwithstanding the cost variations authorized by section 2853 of title 10, United States Code, and any other cost variation authorized by law, the total cost of all projects carried out under section 2121 of this Act may not exceed the total amount authorized to be appropriated under subsection (a)(1).

TITLE XXII—NAVY

PART A—FISCAL YEAR 1990

SEC. 2201. AUTHORIZED NAVY CONSTRUCTION AND LAND ACQUISITION PROJECTS

(a) INSIDE THE UNITED STATES:—The Secretary of the Navy may acquire real property and may carry out military construction projects in the amounts shown for each of the following installations and locations inside the United States:

ALABAMA

Mobile, Navy Station, $3,965,000.

ALASKA

Adak, Naval Air Station, $18,870,000.

ARIZONA

Yuma, Marine Corps Air Station, $900,000.

CALIFORNIA

Camp Pendleton, Marine Corps Air Station, $2,100,000.
Camp Pendleton, Marine Corps Base, $57,600,000.
China Lake, Naval Weapons Center, $17,500,000.
Concord, Naval Weapons Station, $5,640,000.
Coronado, Naval Amphibious Base, $7,770,000.
Coronado, Surface Warfare Officers School Command Detachment, $4,360,000.
El Centro, Naval Air Facility, $7,200,000.
Lemoore, Naval Air Station, $2,100,000.
Moffett Field, Naval Air Station, $1,000,000.
Monterey, Fleet Numerical Oceanography Center, $6,760,000.
Monterey, Naval Post Graduate School, $18,690,000.
North Island, Naval Air Station, $6,160,000.
San Diego, Fleet Anti-Submarine Warfare Training Center, Pacific, $820,000.
San Diego, Fleet Combat Training Center, Pacific, $3,670,000.
San Diego, Fleet Intelligence Training Center, Pacific, $2,500,000.
San Diego, Fleet Training Center, $12,800,000.
San Diego, Integrated Combat Systems Test Facility, $4,100,000.
San Diego, Marine Corps Recruit Depot, $3,070,000.
San Diego, Naval Ocean Systems Center, $1,300,000.
San Diego, Naval Station, $1,000,000.
San Diego, Naval Submarine Base, $10,800,000.
San Diego, Naval Training Center, $7,150,000.
San Diego, Naval Public Works Center, $4,400,000.
San Francisco, Navy Public Works Center, $3,910,000.
Seal Beach, Naval Weapons Station, $9,000,000.
Tustin, Marine Corps Air Station, $2,990,000.
Twentynine Palms, Marine Corps Air-Ground Combat Center, $3,140,000.
Vallejo, Mare Island Naval Shipyard, $9,000,000.

CONNECTICUT

New London, Naval Submarine Base, $24,250,000.
New London, Naval Submarine School, $8,200,000.
New London, Naval Underwater Systems Center, $12,600,000.

DISTRICT OF COLUMBIA

Washington, Commandant, Naval District, $420,000.
Washington, Naval Observatory, $2,500,000.

FLORIDA

Cecil Field, Naval Air Station, $1,970,000.
Jacksonville, Naval Hospital, $2,080,000.
Mayport, Naval Station, $20,000,000.
Orlando, Naval Training Center, $18,400,000.
Panama City, Naval Diving and Salvage Training Center, $4,300,000.
Panama City, Naval Experimental Diving Unit, $2,900,000.
Pensacola, Navy Public Works Center, $2,100,000.

GEORGIA

Albany, Marine Corps Logistics Base, $4,550,000.
Athens, Navy Supply Corps School, $1,000,000.
Kings Bay, Naval Submarine Base, $66,689,000.

HAWAII

Kaneohe Bay, Marine Corps Air Station, $13,150,000.
Lualualei, Naval Magazine, $4,600,000.
Pearl Harbor, Naval Submarine Base, $18,600,000.
Pearl Harbor, Naval Submarine Training Center, Pacific, $5,550,000.
Pearl Harbor, Navy Public Works Center, $750,000.
Wahiawa, Naval Communication Area Master Station Eastern Pacific, $8,000,000.

ILLINOIS

Great Lakes, Naval Hospital, $12,270,000.
Great Lakes, Naval Training Center, $15,900,000.

INDIANA

Crane, Naval Weapons Support Center, $4,000,000.
Indianapolis, Naval Avionics Center, $8,000,000.

MAINE

Brunswick, Naval Air Station, $1,000,000.
Brunswick, Naval Branch Medical Clinic, $2,650,000.
Kittery, Portsmouth Naval Shipyard, $1,000,000.

MARYLAND

Indian Head, Naval Explosive Ordnance Disposal Technology Center, $7,700,000.
Indian Head, Naval Ordnance Station, $10,670,000.
Patuxent River, Naval Air Test Center, $17,000,000.
St. Inigoes, Naval Electronic Systems Engineering Activity, $2,950,000.

MISSISSIPPI

Meridian, Naval Air Station, $11,800,000.
Pascagoula, Naval Station, $2,220,000.

MISSOURI

Kansas City, Marine Corps Support Activity, $10,000,000.

NEVADA

Fallon, Naval Air Station, $1,000,000.

NEW JERSEY

Bayonne, Navy Publications and Printing Service Detachment Office, $1,000,000.
Earle, Naval Weapons Station, $14,270,000.

NEW MEXICO

Elephant Butte, Naval Space Surveillance Field Station, $4,700,000.

NEW YORK

New York, Naval Station, $25,640,000.

NORTH CAROLINA

Camp Lejeune, Marine Corps Base, $21,210,000.
Cherry Point, Marine Corps Air Station, $10,750,000.
New River, Marine Corps Air Station, $21,100,000.

OKLAHOMA

Tinker Air Force Base, Naval Air Detachment, $21,500,000.

PENNSYLVANIA

Philadelphia, Naval Shipyard, $10,000,000.

RHODE ISLAND

Newport, Naval Education and Training Center, $8,290,000.

SOUTH CAROLINA

Beaufort, Marine Corps Air Station, $4,920,000.
Charleston, Naval Supply Center, $700,000.
Charleston, Naval Weapons Station, $4,600,000.

TENNESSEE

Memphis, Naval Air Station, $10,000,000.

TEXAS

Ingleside, Naval Station, $19,720,000.
Lackland Air Force Base, Naval Technical Training Center Detachment, $4,500,000.

VIRGINIA

Chesapeake, Naval Security Group Activity, Northwest, $1,300,000.
Dahlgren, Naval Surface Warfare Center, $1,000,000.
Dam Neck, Marine Environmental Systems Facility, $8,000,000.
Little Creek, Naval Amphibious Base, $5,200,000.
Norfolk, Naval Air Station, $4,400,000.

Norfolk, Naval Eastern Oceanography Center, $680,000.
Norfolk, Naval Public Works Center, $332,000.
Norfolk, Naval Supply Center, $6,500,000.
Oceana, Naval Air Station, $12,555,000.
Portsmouth, Norfolk Naval Shipyard, $9,700,000.
Quantico, Marine Corps Combat Development Command, $3,450,000.
Williamsburg, Cheatham Annex, Naval Supply Center, $18,500,000.
Yorktown, Naval Weapons Station, $21,420,000.

WASHINGTON

Bremerton, Naval Hospital, $1,000,000.
Bremerton, Puget Sound Naval Shipyard, $19,900,000.
Bremerton, Puget Sound Naval Supply Center, $690,000.
Everett, Naval Station, $11,200,000.
Keyport, Naval Undersea Warfare Engineering Station, $12,250,000.
Oso, Jim Creek Naval Radio Station, $1,200,000.

VARIOUS LOCATIONS

Land acquisition, $22,300,000.

(b) OUTSIDE THE UNITED STATES.—The Secretary of the Navy may acquire real property and may carry out military construction projects in the amounts shown for each of the following installations and locations outside the United States:

ASCENSION ISLAND

Naval Communication Detachment, $3,500,000.

AUSTRALIA

Exmouth, Harold E. Holt Naval Communication Station, $610,000.

GUAM

Camp Covington, Mobile Construction Battalion, $4,300,000.
Navy Public Works Center, $4,150,000.

ICELAND

Keflavik, Naval Air Station, $7,500,000.
Keflavik, Naval Communication Station, $8,450,000.

ITALY

Naples, Naval Support Activity, $46,600,000.

PUERTO RICO

Roosevelt Roads, Naval Communication Station, $1,300,000.

SPAIN

Rota, Naval Station, $1,900,000.

UNITED KINGDOM

Edzell, Scotland, Naval Security Group Activity, $5,820,000.

VARIOUS LOCATIONS

Classified location, $5,800,000.
Host Nation Infrastructure Support, $1,000,000.

SEC. 2202. FAMILY HOUSING

(a) CONSTRUCTION AND ACQUISITION.—The Secretary of the Navy may, using amounts appropriated pursuant to section 2204(a)(6)(A), construct or acquire family housing units (including land acquisition), at the following installations in the number of units, and in the amount, shown for each installation:

Camp Pendleton, Marine Corps Base, California, two hundred and ninety-five units, $25,150,000.

El Toro, Marine Corps Air Station, California, two hundred units, $15,000,000.

Moffett Field, Naval Air Station, California, seventy-four units, $6,600,000.

San Francisco, Navy Public Works Center, California, three hundred and forty-four units, $23,350,000.

Glenview Naval Air Station, Illinois, one hundred forty units, $15,300,000.

Thurmont, Naval Support Facility, Maryland, eleven units, $1,160,000.

Guantanamo, Naval Station, Cuba, two hundred and fifty-four units, $31,669,000.

Keflavik, Naval Air Station, Iceland, one hundred twelve units, $23,213,000.

(b) PLANNING AND DESIGN.—The Secretary of the Navy may carry out architectural and engineering services and construction design activities, using amounts appropriated pursuant to section 2204(a)(6)(A), with respect to the construction or improvement of military family housing units in an amount not to exceed $3,100,000.

(c) PROJECT.—(1) The Secretary of the Navy may construct one family housing unit, at a cost not to exceed $140,000, on the Naval Air Station at Kingsville, Texas, in accordance with applicable provisions of law.

(2) Funds appropriated to the Department of the Navy for any fiscal year before fiscal year 1991 for military family housing projects that remain available, as savings, for obligation are hereby authorized to be made available, to the extent provided in appropriation Acts, to carry out paragraph (1).

Termination date.

(3) The authority to carry out this subsection shall expire on October 1, 1994.

SEC. 2203. IMPROVEMENTS TO MILITARY FAMILY HOUSING UNITS

(a) IN GENERAL.—Subject to section 2825 of title 10, United States Code, the Secretary of the Navy may, using amounts appropriated pursuant to section 2204(a)(6)(A), improve existing military family housing units in the amount of $41,748,000.

(b) WAIVER OF MAXIMUM PER UNIT COST FOR CERTAIN IMPROVEMENT PROJECTS.—Notwithstanding the maximum amount per unit for an improvement project under section 2825(b) of title 10, United States Code, the Secretary of the Navy may carry out projects to improve existing military family housing units at the following

installations in the number of units, and in the amount, shown for each installation:

Long Beach, Naval Station, California, forty-four units, $2,208,200.

San Diego, Navy Public Works Center, California, one unit, $79,900.

Great Lakes, Navy Public Works Center, Illinois, two hundred and sixty-two units, $17,198,100.

Lakehurst, Naval Air Engineering Center, New Jersey, thirty-two units, $1,946,400.

Lakehurst, Naval Air Engineering Center, New Jersey, one unit, $80,100.

New York, Naval Station, New York, ten units, $842,000.

New York, Naval Station, New York, ten units, $719,100.

Cherry Point, Marine Corps Air Station, North Carolina, two hundred and fourteen units, $13,398,000.

Newport, Naval Education and Training Center, Rhode Island, two hundred and twenty units, $13,700,000.

Bangor, Naval Submarine Base, Washington, one hundred units, $5,844,200.

Guantanamo Bay, Naval Station, Cuba, one unit, $104,700.

SEC. 2204. AUTHORIZATION OF APPROPRIATIONS, NAVY

(a) IN GENERAL.—Funds are hereby authorized to be appropriated for fiscal years beginning after September 30, 1989, for military construction, land acquisition, and military family housing functions of the Department of the Navy in the total amount of $1,962,935,000 as follows:

(1) For military construction projects inside the United States authorized by section 2201(a), $915,511,000.

(2) For military construction projects outside the United States authorized by section 2201(b), $90,930,000.

(3) For unspecified minor construction projects under section 2805 of title 10, United States Code, $14,000,000.

(4) For architectural and engineering services and construction design under section 2807 of title 10, United States Code, $84,970,000.

(5) For advances to the Secretary of Transportation for construction of defense access roads under section 210 of title 23, United States Code, $5,810,000.

(6) For military family housing functions—

(A) for construction and acquisition of military family housing and facilities, $191,290,000; and

(B) for support of military housing (including functions described in section 2833 of title 10, United States Code), $660,424,000, of which not more than $40,800,000 may be obligated or expended for the leasing of military family housing units worldwide.

(b) LIMITATION ON TOTAL COST OF CONSTRUCTION PROJECTS.—Notwithstanding the cost variations authorized by section 2853 of title 10, United States Code, and any other cost variation authorized by law, the total cost of all projects carried out under section 2201 of this Act may not exceed the total amount authorized to be appropriated under paragraphs (1) and (2) of subsection (a).

SEC. 2205. EXTENSION OF CERTAIN PRIOR YEAR AUTHORIZATIONS

Notwithstanding the provisions of section 2171(a) of the Military Construction Authorization Act, 1988 and 1989 (division B of Public Law 100-180; 101 Stat. 1206), authorizations for the following projects authorized in section 2121 of that Act shall remain in effect until October 1, 1990, or the date of the enactment of an Act (other than this Act) authorizing funds for military construction for fiscal year 1991, whichever is later:

(1) Physical security improvements in the amount of $2,460,000 at Naval Air Station, Sigonella, Italy.

(2) Cold-iron utilities support in the amount of $7,480,000 at Naval Support Office, La Maddalena, Italy.

(3) Command, Control, Communications and Intelligence Complex in the amount of $19,400,000 at Naval Support Activity, Naples, Italy.

SEC. 2206. STUDY AND SOLICITATION OF BIDS FOR OFFICE SPACE

Virginia.

(a) STUDY.—The Secretary of the Navy shall conduct a study to determine the location or locations in the State of Virginia at which the Department of the Navy can most efficiently and effectively carry out the operations it currently performs in such State within the National Capital Region.

(b) REPORT.—The Secretary shall, within 90 days after the date of the enactment of this Act, transmit a report to the Committees on Armed Services of the Senate and the House of Representatives containing the findings and conclusions of such study.

(c) SOLICITATION OF BIDS.—After the 30-day period beginning on the date on which the report described in subsection (b) is transmitted, the Administrator of General Services may issue one or more solicitations of bids, in accordance with applicable law, for office space in the State of Virginia for use by the Department of the Navy in carrying out the operations of the Department currently being performed in such State within the National Capital Region.

SEC. 2207. COMMUNITY SUPPORT CENTER, MARINE CORPS AIR STATION, TUSTIN, CALIFORNIA

(a) PROJECT AUTHORIZATION.—(1) Section 2201(a) of the Military Construction Authorization Act, 1989 (Public Law 100-456; 102 Stat. 2093), is amended by striking out "$10,990,000" after "Marine Corps Air Station, Tustin," under the heading "California" and inserting in lieu thereof "$12,036,000".

(2) Section 2202(a) of such Act (102 Stat. 2097) is amended by striking out "and eighty mobile home spaces, $10,120,000" in the item relating to Marine Corps Air Station, El Toro, California, and inserting in lieu thereof ", $9,074,000".

(b) AUTHORIZATION OF APPROPRIATIONS.—(1) Section 2205(a)(1) of such Act (102 Stat. 2099) is amended by striking out "$1,296,450,000" and inserting in lieu thereof "$1,297,496,000".

(2) Section 2205(a)(6)(A) of such Act (102 Stat. 2099) is amended by striking out "$250,770,000" and inserting in lieu thereof "$249,724,000".

PART B—FISCAL YEAR 1991

SEC. 2221. AUTHORIZED NAVY CONSTRUCTION AND LAND ACQUISITION PROJECTS

(a) INSIDE THE UNITED STATES.—The Secretary of the Navy may acquire real property and may carry out military construction projects in the amounts shown for each of the following installations and locations inside the United States:

ARIZONA

Yuma, Marine Corps Air Station, $3,000,000.

CALIFORNIA

Bridgeport, Marine Corps Mountain Warfare Training Center, California, $8,000,000.

Twentynine Palms, Marine Corps Air-Ground Combat Center, $3,600,000.

FLORIDA

Orlando, Naval Training Center, $17,950,000.

GEORGIA

Kings Bay, Naval Submarine Base, $75,231,000.

NORTH CAROLINA

Camp Lejeune, Marine Corps Base, $3,000,000.

Cherry Point, Marine Corps Air Station, $1,050,000.

TEXAS

Lackland Air Force Base, Naval Technical Training Center Detachment, $11,800,000.

VIRGINIA

Dam Neck, Marine Environmental Systems Facility, $8,000,000.

Little Creek, Naval Amphibious Base, $12,400,000.

WASHINGTON

Everett, Naval Station, $22,150,000.

(b) OUTSIDE THE UNITED STATES.—The Secretary of the Navy may acquire real property and may carry out military construction projects in the amounts shown for each of the following installations and locations outside the United States:

ICELAND

Keflavik, Naval Air Station, $1,030,000.

SEC. 2222. FAMILY HOUSING

The Secretary of the Navy may, using amounts appropriated pursuant to section 2223(a)(5)(A), construct or acquire family housing units (including land acquisition), at the following installations

in the number of units, and in the amount, shown for each installation:

New York, Naval Station, New York, one hundred fifty units, $19,600,000.

Keflavik, Naval Air Station, Iceland, one hundred twelve units, $27,200,000.

SEC. 2223. AUTHORIZATION OF APPROPRIATIONS, NAVY

(a) IN GENERAL.—Funds are hereby authorized to be appropriated for fiscal years beginning after September 30, 1990, for military construction, land acquisition, and military family housing functions of the Department of the Navy in the total amount of $986,410,000 as follows:

(1) For military construction projects inside the United States authorized by section 2221(a), $166,181,000.

(2) For military construction projects outside the United States authorized by section 2221(b), $1,030,000.

(3) For unspecified minor construction projects under section 2805 of title 10, United States Code, $15,500,000.

(4) For architectural and engineering services and construction design under section 2807 of title 10, United States Code, $81,999,000.

(5) For military family housing functions—

(A) for construction and acquisition of military family housing and facilities, $46,800,000; and

(B) for support of military housing (including functions described in section 2833 of title 10, United States Code), $674,900,000, of which not more than $66,421,000 may be obligated or expended for the leasing of military family housing units worldwide.

(b) LIMITATION ON TOTAL COST OF CONSTRUCTION PROJECTS.—Notwithstanding the cost variations authorized by section 2853 of title 10, United States Code, and any other cost variation authorized by law, the total cost of all projects carried out under section 2221 of this Act may not exceed the total amount authorized to be appropriated under paragraphs (1) and (2) of subsection (a).

TITLE XXIII—AIR FORCE

PART A—FISCAL YEAR 1990

SEC. 2301. AUTHORIZED AIR FORCE CONSTRUCTION AND LAND ACQUISITION PROJECTS

(a) INSIDE THE UNITED STATES.—The Secretary of the Air Force may acquire real property and may carry out military construction projects in the amounts shown for each of the installations and locations inside the United States:

ALABAMA

Gunter Air Force Base, $12,100,000.
Maxwell Air Force Base, $1,520,000.

ALASKA

Clear Air Force Station, $5,000,000.
Eielson Air Force Base, $21,000,000.

Elmendorf Air Force Base, $2,400,000.
King Salmon Airport, $8,000,000.
Shemya Air Force Base, $22,700,000.

ARIZONA

Davis-Monthan Air Force Base, $8,200,000.
Luke Air Force Base, $3,970,000.
Williams Air Force Base, $1,850,000.

ARKANSAS

Ira Eaker Air Force Base, $4,050,000.

CALIFORNIA

Beale Air Force Base, $13,472,000.
Castle Air Force Base, $3,900,000.
Edwards Air Force Base, $12,400,000.
McClellan Air Force Base, $27,730,000.
Onizuka Air Force Station, $14,800,000.
Travis Air Force Base, $9,000,000.
Vandenberg Air Force Base, $13,550,000.

COLORADO

Lowry Air Force Base, $21,250,000.

DELAWARE

Dover Air Force Base, $8,300,000.

FLORIDA

Cape Canaveral Air Force Station, $89,000,000.
Eglin Air Force Base, $12,100,000.
Eglin Air Force Base, Auxiliary Field 9, $21,900,000.
Homestead Air Force Base, $7,350,000.
MacDill Air Force Base, $4,490,000.
Patrick Air Force Base, $3,800,000.
Tyndall Air Force Base, $8,500,000.

GEORGIA

Robins Air Force Base, $33,350,000.

HAWAII

Hickam Air Force Base, $530,000.

ILLINOIS

Scott Air Force Base, $8,400,000.

INDIANA

Grissom Air Force Base, $6,800,000.

KANSAS

McConnell Air Force Base, $5,200,000.

LOUISIANA

Barksdale Air Force Base, $7,700,000.
England Air Force Base, $10,300,000.

MAINE

Loring Air Force Base, $8,500,000.

MARYLAND

Andrews Air Force Base, $5,550,000.

MASSACHUSETTS

Hanscom Air Force Base, $5,600,000.

MICHIGAN

K.I. Sawyer Air Force Base, $4,300,000.

MISSISSIPPI

Columbus Air Force Base, $1,200,000.

MISSOURI

Whiteman Air Force Base, $72,500,000.

MONTANA

Malmstrom Air Force Base, $32,100,000.

NEBRASKA

Offutt Air Force Base, $1,150,000.

NEVADA

Nellis Air Force Base, $4,800,000.

NEW JERSEY

McGuire Air Force Base, $4,900,000.

NEW MEXICO

Holloman Air Force Base, $17,350,000.
Kirtland Air Force Base, $18,350,000.

NEW YORK

Griffis Air Force Base, $7,400,000.
Plattsburgh Air Force Base, $9,900,000.

NORTH CAROLINA

Seymour Johnson Air Force Base, $4,500,000.

NORTH DAKOTA

Grand Forks Air Force Base, $1,900,000.

OHIO

Newark Air Force Base, $2,980,000.
Wright Patterson Air Force Base, $11,760,000.

OKLAHOMA

Altus Air Force Base, $5,200,000.
Tinker Air Force Base, $56,800,000.

SOUTH CAROLINA

Charleston Air Force Base, $4,650,000.
Myrtle Beach Air Force Base, $2,350,000.
Shaw Air Force Base, $5,700,000.

SOUTH DAKOTA

Ellsworth Air Force Base, $11,350,000.

TEXAS

Bergstrom Air Force Base, $2,400,000.
Carswell Air Force Base, $650,000.
Goodfellow Air Force Base, $3,300,000.
Kelly Air Force Base, $17,930,000.
Lackland Air Force Base, $34,250,000.
Lackland Training Annex, $1,994,000.
Laughlin Air Force Base, $5,350,000.
Randolph Air Force Base, $630,000.
Reese Air Force Base, $4,630,000.

UTAH

Hill Air Force Base, $16,950,000.

VIRGINIA

Langley Air Force Base, $3,300,000.

WASHINGTON

Fairchild Air Force Base, $14,200,000.

WYOMING

F. E. Warren Air Force Base, $104,850,000.

(b) OUTSIDE THE UNITED STATES.—The Secretary of the Air Force may acquire real property and may carry out military construction projects in the amounts shown for each of the following installations and locations outside the United States:

CANADA

Various Locations, $24,000,000.

GERMANY

Hahn Air Base, $4,120,000.
Sembach Air Base, $1,250,000.
Spangdahlem Air Base, $1,250,000.

Zweibrucken Air Base, $6,100,000.

GUAM

Andersen Air Force Base, $6,500,000.

ICELAND

Naval Air Station, Keflavik, $7,400,000.

ITALY

Aviano Air Base, $2,250,000.
San Vito Air Station, $2,750,000.

KOREA

Kunsan Air Base, $7,900,000.

OMAN

Seeb, $2,200,000.
Thumrait, $23,600,000.

PORTUGAL

Lajes Field, $10,000,000.

TURKEY

Balikesir Radio Relay Site, $3,600,000.
Erhac Air Base, $2,750,000.
Incirlik Air Base, $1,100,000.

UNITED KINGDOM

Bovingdon Radio Relay Site, $400,000.
RAF Alconbury, $1,300,000.
RAF Barford St. John, $490,000.
RAF Bentwaters, $2,450,000.
RAF Christmas Common Radio Relay Site, $210,000.
RAF Fairford, $1,350,000.
RAF Mildenhall, $1,650,000.
RAF Upper Heyford, $5,350,000.

VARIOUS LOCATIONS

Classified location, $740,000.

SEC. 2302. FAMILY HOUSING

(a) CONSTRUCTION AND ACQUISITION.—The Secretary of the Air Force may, using amounts appropriated pursuant to section 2304(a)(7)(A), construct or acquire family housing units (including land acquisition) at the following installations in the number of units, and in the amount, shown for each installation:

Kelly Air Force Base, Texas, eleven units, $1,619,000.

Ramstein Air Base, Germany, two hundred units, $18,722,000.

(b) PLANNING AND DESIGN.—The Secretary of the Air Force may, using amounts appropriated pursuant to section 2304(a)(7)(A), carry out architectural and engineering services and construction design

activities with respect to the construction or improvement of military family housing units in an amount not to exceed $8,000,000.

SEC. 2303. IMPROVEMENT TO MILITARY FAMILY HOUSING UNITS

(a) IN GENERAL.—Subject to section 2825 of title 10, United States Code, the Secretary of the Air Force may, using amounts appropriated pursuant to section 2304(a)(7)(A), improve existing military family housing units in an amount not to exceed $173,349,000.

(b) WAIVER OF MAXIMUM PER UNIT COST FOR CERTAIN IMPROVEMENT PROJECTS.—Notwithstanding the maximum amount per unit for an improvement project under section 2825(b) of title 10, United States Code, the Secretary of the Air Force may carry out projects to improve existing military family housing units at the following installations in the number of units shown, and in the amount shown, for each installation:

Maxwell Air Force Base, Alabama, eight units, $357,000; eight units, $800,000; one unit, $108,000; thirty-two units, $1,548,000.

Elmendorf Air Force Base, Alaska, eighty-eight units, $9,578,000; forty units, $4,451,000.

Davis-Monthan Air Force Base, Arizona, five units, $200,000.

Travis Air Force Base, California, one hundred forty-two units, $7,691,000.

Peterson Air Force Base, Colorado, thirty-two units, $1,438,000.

Bolling Air Force Base, District of Columbia, forty units, $1,685,000.

Tyndall Air Force Base, Florida, forty units, $2,441,000.

Scott Air Force Base, Illinois, four units, $250,000; eighty units, $4,076,000.

England Air Force Base, Louisiana, one hundred one units, $4,208,000.

Whiteman Air Force Base, Missouri, fifteen units, $970,000.

Nellis Air Force Base, Nevada, thirty-two units, $1,727,000.

Holloman Air Force Base, New Mexico, one hundred twenty-three units, $5,710,000; one unit, $47,000.

Bergstrom Air Force Base, Texas, two units, $149,000.

Carswell Air Force Base, Texas, one hundred nineteen units, $5,432,000.

Kelly Air Force Base, Texas, seventy-nine units, $3,650,000.

Randolph Air Force Base, Texas, one hundred twenty-four units, $4,136,000; one unit, $78,000.

Langley Air Force Base, Virginia, eighty-six units, $5,398,000.

Fairchild Air Force Base, Washington, two hundred thirty units, $12,162,000.

Ramstein Air Base, Germany, one unit, $137,000; twenty-four units, $2,180,000; thirty-eight units, $2,681,000.

Spangdahlem Air Base, Germany, four units, $302,000.

Andersen Air Base, Guam, two hundred units, $17,817,000.

RAF Alconbury, United Kingdom, one unit, $55,000.

RAF Bentwaters, United Kingdom, eighty-three units, $4,610,000.

RAF Chicksands, United Kingdom, thirty-four units, $3,027,000.

RAF Lakenheath, United Kingdom, fourteen units, $1,153,000; sixty units, $3,408,000.

RAF Mildenhall, United Kingdom, two units, $89,000.

(c) WAIVER OF SPACE LIMITATIONS FOR FAMILY HOUSING UNITS.—(1) The Secretary of the Air Force may carry out improvement projects to add to and alter existing family housing units and, notwithstanding section 2826(a) of title 10, United States Code, to—

(A) increase the net floor area of one family housing unit at Ramstein Air Base, Germany, to not more than 3,045 square feet;

(B) increase the net floor area of four family housing units at Scott Air Force Base, Illinois, to not more than 2,470 square feet; and

(C) increase the net floor area of two family housing units at Hill Air Force Base, Utah, to not more than 2,315 square feet.

(2) The Secretary of the Air Force may, notwithstanding section 2826(a) of title 10, United States Code, carry out new construction projects to build five family housing units at Kelly Air Force Base, Texas, to not more than 3,000 square feet.

(3) For purposes of this subsection, the term "net floor area" has the same meaning given that term by section 2826(f) of title 10, United States Code.

SEC. 2304. AUTHORIZATION OF APPROPRIATIONS, AIR FORCE

(a) IN GENERAL.—Funds are hereby authorized to be appropriated for fiscal years beginning after September 30, 1989, for military construction, land acquisition, and military family housing functions of the Department of the Air Force in the total amount of $2,193,638,000, as follows:

(1) For military construction projects inside the United States authorized by section 2301(a), $945,836,000.

(2) For military construction projects outside the United States authorized by section 2301(b), $120,710,000.

(3) For the construction of the Large Rocket Test Facility, Arnold Engineering Development Center, Tennessee, as authorized by section 2301(a) of the Military Construction Authorization Act, 1989 (division B of Public Law 100-456; 102 Stat. 2101), $66,000,000.

(4) For unspecified minor construction projects under section 2805 of title 10, United States Code, $7,000,000.

(5) For architectural and engineering services and construction design under section 2807 of title 10, United States Code, $106,094,000.

(6) For advances to the Secretary of Transportation for construction of defense access roads under section 210 of title 23, United States Code, $3,000,000.

(7) For military family housing functions—

(A) for construction and acquisition of military family housing and facilities, $201,690,000; and

(B) for support of military housing (including functions described in section 2833 of title 10, United States Code), $743,308,000, of which not more than $96,000,000 may be obligated or expended for leasing of military family housing units worldwide.

(b) LIMITATION ON TOTAL COST OF CONSTRUCTION PROJECTS.—Notwithstanding the cost variations authorized by section 2853 of title 10, United States Code, and any other cost variation authorized by law, the total cost of all projects carried out under section 2301 of this Act may not exceed the total amount authorized to be appropriated under paragraphs (1) and (2) of subsection (a).

(c) AUTHORIZED PROJECTS.—(1) The Secretary of the Air Force may use not more than $248,900 of the amount appropriated pursuant to the authorization in subsection (a) to acquire a depot operations logistics facility at Tinker Air Force Base, Oklahoma.

(2) The Secretary of the Air Force may provide not more than $7,250,000 of the amount appropriated pursuant to the authorization in subsection (a)(1) to the Douglas School District, South Dakota, for the construction of a middle school primarily for the dependents of Armed Forces personnel assigned to duty at Ellsworth Air Base, South Dakota.

SEC. 2305. EXTENSION OF CERTAIN PRIOR YEAR AUTHORIZATIONS

(a) EXTENSION OF AUTHORIZATION OF CERTAIN FISCAL YEAR 1986 PROJECT.—Notwithstanding the provisions of section 606(a) of the Military Construction Authorization Act, 1986 (Public Law 99-167; 99 Stat. 982), authorization for the following project authorized in section 301 of that Act shall remain in effect until October 1, 1990, or the date of the enactment of an Act (other than this Act) authorizing funds for military construction for fiscal year 1991, whichever is later:

GEODSS Site 5, Portugal, Composite Support Facility in the amount of $2,250,000 and Spacetrack Observation Facility in the amount of $12,400,000.

(b) EXTENSION OF AUTHORIZATION OF CERTAIN FISCAL YEAR 1987 PROJECT.—Notwithstanding the provisions of section 2701(a) of the Military Construction Authorization Act, 1987 (division B of Public Law 99-661; 100 Stat. 4040), authorization for the following project authorized in section 2301 of that Act shall remain in effect until October 1, 1990, or the date of the enactment of an Act (other than this Act) authorizing funds for military construction for fiscal year 1991, whichever is later:

KC-135 CPT Simulator Facility in the amount of $760,000 at Beale Air Force Base, California.

(c) EXTENSION OF AUTHORIZATION OF CERTAIN FISCAL YEAR 1988 PROJECTS.—Notwithstanding the provisions of section 2171(a) of the Military Construction Authorization Act, 1988 and 1989 (division B of Public Law 100-180; 101 Stat. 1206), authorization for the following projects authorized in sections 2131 and 2132 of that Act shall remain in effect until October 1, 1990, or the date of the enactment of an Act (other than this Act) authorizing funds for military construction for fiscal year 1991, whichever is later:

(1) KC-135 CPT Simulator Facility, in the amount of $1,150,000 at Loring Air Force Base, Maine.

(2) Thirty-four family housing units in the amount of $2,530,000 at Holbrook, Arizona.

SEC. 2306. LUKE AIR FORCE BASE, ARIZONA

Section 2301(a) of the Military Construction Authorization Act, 1989 (division B of Public Law 100-456; 102 Stat. 2101) is amended—

(1) by striking out "Williams Air Force Base, $11,130,000." under the heading "Arizona" and inserting in lieu thereof "Williams Air Force Base, $9,230,000."; and

(2) by striking out "Luke Air Force Base, $4,550,000." under the heading "Arizona" and inserting in lieu thereof "Luke Air Force Base, $6,450,000.".

SEC. 2307. ARNOLD ENGINEERING DEVELOPMENT CENTER, TENNESSEE

(a) PROJECT AMOUNT.—Section 2301(a) of the Military Construction Authorization Act, 1989 (division B of Public Law 100-456; 102 Stat. 2101), is amended by striking out "Arnold Engineering Development Center, $213,800,000." under the heading "Tennessee" and inserting in lieu thereof "Arnold Engineering Development Center, $256,800,000.".

(b) TITLE TOTAL.—Section 2304(b)(2) of such Act (102 Stat. 2108) is amended by striking out "$133,000,000" and inserting in lieu thereof "$176,000,000".

SEC. 2308. REFERENCE TO LIMITATION ON OBLIGATION OF FUNDS FOR MX RAIL GARRISON PROGRAM

Limitations with respect to the obligation of funds for construction in connection with the the MX Rail Garrison program are set forth in section 231.

PART B—FISCAL YEAR 1991

SEC. 2321. AUTHORIZED AIR FORCE CONSTRUCTION AND LAND ACQUISITION PROJECTS

(a) INSIDE THE UNITED STATES.—The Secretary of the Air Force may acquire real property and may carry out military construction projects in the amounts shown for each of the installations and locations inside the United States:

ALASKA

Shemya Air Force Base, $48,200,000.

COLORADO

Falcon Air Force Station, $2,000,000.
Peterson Air Force Base, $17,750,000.

OKLAHOMA

Altus Air Force Base, $7,900,000.

SOUTH CAROLINA

Charleston Air Force Base, $8,740,000.

TEXAS

Lackland Air Force Base, $22,550,000.

UTAH

Hill Air Force Base, $2,350,000.

(b) OUTSIDE THE UNITED STATES.—The Secretary of the Air Force may acquire real property and may carry out military construction projects in the amounts shown for each of the following installations and locations outside the United States:

GERMANY

Hahn Air Base, $7,200,000.

WORLDWIDE CLASSIFIED

Classified locations, $5,910,000.

SEC. 2322. FAMILY HOUSING

The Secretary of the Air Force may, using amounts appropriated pursuant to section 2323(a)(6)(A), construct or acquire family housing units (including land acquisition) at the following installation:

Malmstrom Air Force Base, Montana, one unit, $180,000.

SEC. 2323. AUTHORIZATION OF APPROPRIATIONS, AIR FORCE

(a) IN GENERAL.—Funds are hereby authorized to be appropriated for fiscal years beginning after September 30, 1990, for military construction, land acquisition, and military family housing functions of the Department of the Air Force in the total amount of $1,150,836,000, as follows:

(1) For military construction projects inside the United States authorized by section 2321(a), $109,490,000.

(2) For military construction projects outside the United States authorized by section 2321(b), $13,110,000.

(3) For the construction of the Large Rocket Test Facility, Arnold Engineering Development Center, Tennessee, as authorized by section 2301(a) of the Military Construction Authorization Act, 1989 (division B of Public Law 100-456; 102 Stat. 2101), $66,300,000.

(4) For unspecified minor construction projects under section 2805 of title 10, United States Code, $12,000,000.

(5) For architectural and engineering services and construction design under section 2807 of title 10, United States Code, $114,756,000.

(6) For military family housing functions—

(A) for construction and acquisition of military family housing and facilities, $180,000; and

(B) for support of military family housing (including functions described in section 2833 of title 10, United States Code), $835,000,000, of which not more than $138,632,000 may be obligated or expended for leasing of military family housing units worldwide.

(b) LIMITATION ON TOTAL COST OF CONSTRUCTION PROJECTS.—Notwithstanding the cost variations authorized by section 2853 of title 10, United States Code, and any other cost variation authorized by law, the total cost of all projects carried out under section 2321 of this Act may not exceed the total amount authorized to be appropriated under paragraphs (1) and (2) of subsection (a).

TITLE XXIV—DEFENSE AGENCIES

PART A—FISCAL YEAR 1990

SEC. 2401. AUTHORIZED DEFENSE AGENCIES CONSTRUCTION AND LAND ACQUISITION PROJECTS

(a) INSIDE THE UNITED STATES.—The Secretary of Defense may acquire real property and may carry out military construction projects in the amounts shown for each of the following installations and locations inside the United States:

DEFENSE LOGISTICS AGENCY

Defense Depot, Tracy, California, $24,000,000.
Defense Reutilization and Marketing Office, Eglin Air Force Base, Florida, $2,750,000.
Defense Fuel Support Point, Searsport, Maine, $2,700,000.
Defense Construction Supply Center, Columbus, Ohio, $26,600,000.
Defense Personnel Support Center, Philadelphia, Pennsylvania, $3,800,000.
Defense General Supply Center, Richmond, Virginia, $6,066,000.
Defense Fuel Support Point, Manchester, Washington, $22,600,000.

DEFENSE MEDICAL FACILITIES OFFICE

Maxwell Air Force Base, Alabama, $1,600,000.
Naval Air Station, Mobile, Alabama, $3,000,000.
Naval Air Station, Adak, Alaska, $18,000,000.
Marine Corps Air Station, Twentynine Palms, California, $38,000,000.
Fitzsimons Army Medical Center, Colorado, $5,200,000.
Hurlburt Field, Florida, $6,000,000.
Naval Air Station, Jacksonville, Florida, $2,400,000.
Patrick Air Force Base, Florida, $2,700,000.
Andrews Air Force Base, Maryland, $2,900,000.
Naval Station, Pascagoula, Mississippi, $2.548,000.
Nellis Air Force Base, Nevada, $62,000,000.
Lackland Air Force Base, Texas, $6,000,000.
Naval Station, Ingleside, Texas, $2,300,000.
Portsmouth Naval Hospital, Virginia, $330,000,000.

DEFENSE NUCLEAR AGENCY

Armed Forces Radiobiology Research Institute, Bethesda, Maryland, $900,000.

NATIONAL SECURITY AGENCY

Fort George G. Meade, Maryland, $21,444,000.

OFFICE OF THE SECRETARY OF DEFENSE

The Pentagon, Arlington, Virginia, $3,500,000.
Classified Location, $4,500,000.

UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES

Bethesda, Maryland, $600,000.

STRATEGIC DEFENSE INITIATIVE ORGANIZATION

Nellis Air Force Base, Nevada, $6,542,000.

(b) OUTSIDE THE UNITED STATES.—The Secretary of Defense may acquire real property and may carry out military construction projects in the amounts shown for each of the following installations and locations outside the United States:

DEFENSE MEDICAL FACILITIES OFFICE

Camp Carroll, Korea, $1,500,000.
Camp Garry Owen, Korea, $800,000.

DEFENSE NUCLEAR AGENCY

Johnston Atoll, $6,168,000.

DEPARTMENT OF DEFENSE SCHOOLS

Naval Air Station, Bermuda, $4,810,000.
Augsburg, Germany, $6,300,000.
Frankfurt, Germany, $7,101,000.
Grafenwoehr, Germany, $4,186,000.
Hohenfels, Germany, $17,079,000.
Royal Air Force, Bicester, United Kingdom, $6,275,000.
Royal Air Force, Upwood, United Kingdom, $4,175,000.
Various Locations, $6,600,000.

DEPARTMENT OF DEFENSE SECTION VI SCHOOLS

Fort Buchanan, Puerto Rico, $1,155,000.
Roosevelt Roads, Puerto Rico, $6,541,000.

NATIONAL SECURITY AGENCY

Classified Location, $23,000,000.

SEC. 2402. FAMILY HOUSING

Classified information.

The Secretary of Defense may, using amounts appropriated pursuant to section 2405(a)(10)(A), construct or acquire three family housing units (including land acquisition) at classified locations in the total amount not to exceed $400,000.

SEC. 2403. IMPROVEMENTS TO MILITARY FAMILY HOUSING UNITS

Subject to section 2825 of title 10, United States Code, the Secretary of Defense may, using amounts appropriated pursuant to section 2405(a)(10)(A), improve existing military family housing units in an amount not to exceed $200,000.

SEC. 2404. CONFORMING STORAGE FACILITIES

Section 2404(a) of the Military Construction Authorization Act, 1987 (division B of Public Law 99-661; 100 Stat. 4037) is amended to read as follows:

"(a) AUTHORITY TO CONSTRUCT.—The Secretary of Defense may, using not more than $10,000,000 appropriated for fiscal year 1987, not more than $5,000,000 appropriated for fiscal year 1988, not more than $9,300,000 appropriated for fiscal year 1989, and not more than $11,000,000 appropriated for fiscal year 1990, carry out military construction projects not otherwise authorized by law for conforming storage facilities.".

SEC. 2405. AUTHORIZATION OF APPROPRIATIONS, DEFENSE AGENCIES

(a) IN GENERAL.—Funds are hereby authorized to be appropriated for fiscal years beginning after September 30, 1989, for military construction, land acquisition, and military family housing functions of the Department of Defense (other than the military departments), in the total amount of $562,720,000, as follows:

(1) For military construction projects inside the United States authorized by section 2401(a), $235,150,000.

(2) For military construction projects outside the United States authorized by section 2401(b), $95,690,000.

(3) For military construction projects at Fort Sill, Oklahoma, as authorized by section 2401(a) of the Military Construction Authorization Act, 1989 (division B of Public Law 100-456; 102 Stat. 2109), $27,000,000.

(4) For military construction projects at Fort Sam Houston, Texas, authorized by section 2401(a) of the Military Construction Authorization Act, 1987 (division B of Public Law 99-661; 100 Stat. 4034), $53,000,000.

(5) For military construction projects at Fort Lewis, Washington, authorized by section 101 of the Military Construction Authorization Act, 1985 (Public Law 98-407; 98 Stat. 1495), $16,000,000.

(6) For unspecified minor construction projects under section 2805 of title 10, United States Code, $13,100,000.

(7) For contingency construction projects of the Secretary of Defense under section 2804 of title 10, United States Code, $10,000,000.

(8) For architectural and engineering services and for construction design under section 2807 of title 10, United States Code, $80,480,000.

(9) For conforming storage facilities construction under the authority of section 2404 of the Military Construction Authorization Act, 1987 (division B of Public Law 99-661; 100 Stat. 4037), $11,000,000.

(10) For military family housing functions—

(A) for construction and acquisition of military family housing facilities, $600,000; and

(B) for support of military housing (including functions described in section 2833 of title 10, United States Code), $20,700,000, of which not more than $17,825,000 may be obligated or expended for the leasing of military family housing units worldwide.

(b) LIMITATION OF TOTAL COST OF CONSTRUCTION PROJECTS.—Notwithstanding the cost variations authorized by section 2853 of title 10, United States Code, and any other cost variations authorized by law, the total cost of all projects carried out under section 2401 may not exceed—

(1) the total amount authorized to be appropriated under paragraph (1) and (2) of subsection (a);

(2) $321,500,000 (the balance of the amount authorized under section 2401(a) for the construction of a medical facility at Portsmouth Naval Hospital, Virginia); and

(3) $52,000,000 (the balance of the amount authorized by section 2401(a) for the construction of a hospital at Nellis Air Force Base, Nevada).

SEC. 2406. EXTENSION OF CERTAIN PREVIOUS AUTHORIZATIONS

(a) EXTENSION OF CERTAIN 1987 PROJECT.—Notwithstanding the provisions of section 2701(a) of the Military Construction Authorization Act, 1987 (division B of Public Law 99-661; 100 Stat. 4040), the authorization for the Defense Fuel Support Point, Charleston, South Carolina, in the amount of $5,530,000, in section 2401(a) of that Act shall remain in effect until October 1, 1990, or until the date of

enactment of an Act (other than this Act) authorizing funds for military construction for fiscal year 1991, whichever is later.

(b) EXTENSION OF CERTAIN 1988 PROJECTS.—Notwithstanding the provisions of section 2171(a) of the Military Construction Authorization Act, 1988 and 1989 (division B of Public Law 100-180; 101 Stat. 1206), authorizations for the following projects authorized in section 2141 of that Act shall remain in effect until October 1, 1990, or until the date of enactment of an Act (other than this Act) authorizing funds for military construction for fiscal year 1991, whichever is later:

(1) Fuel Tankage, in the amount of $9,400,000 at Defense Fuel Supply Point, Key West, Florida.

(2) Second Echelon Medical Storage Facility, Iraklion, Greece, $340,000.

(3) Composite Medical Facility, Misawa Air Base, Japan, $4,700,000.

SEC. 2407. MEDICAL FACILITY, FORT SILL, OKLAHOMA

(a) PROJECT AMOUNT.—Section 2401 of the Military Construction Authorization Act, 1989 (division B of Public Law 100-456; 102 Stat. 2109) is amended in the items listed under the heading "Defense Medical Facilities Office", by striking out "Fort Sill, Oklahoma, $54,000,000." and inserting in lieu thereof "Fort Sill, Oklahoma, $68,000,000.".

(b) TITLE TOTAL.—Section 2407(b)(2) of such Act (102 Stat. 2112) is amended by striking out "$27,000,000" and inserting in lieu thereof "$41,000,000".

PART B—FISCAL YEAR 1991

SEC. 2421. AUTHORIZED DEFENSE AGENCIES CONSTRUCTION AND LAND ACQUISITION PROJECTS

The Secretary of Defense may acquire real property and may carry out military construction projects in the amount shown for the following installation outside the United States.

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Fort Buchanan, Puerto Rico, $4,200,000.

SEC. 2422. AUTHORIZATION OF APPROPRIATIONS, DEFENSE AGENCIES

(a) IN GENERAL.—Funds are hereby authorized to be appropriated for fiscal years beginning after September 30, 1990, for military construction, land acquisition, and military family housing functions of the Department of Defense (other than the military departments), in the total amount of $456,100,000, as follows:

(1) For military construction projects outside the United States authorized by section 2421, $4,200,000.

(2) For military construction projects at Fort Sam Houston, Texas, authorized by section 2401(a) of the Military Construction Authorization Act, 1987 (division B of Public Law 99-661; 100 Stat. 4034), $84,000,000.

(3) For military construction projects at Portsmouth Naval Hospital, Virginia, authorized by section 2401(a), $176,000,000.

(4) For military construction projects at Nellis Air Force Base, Nevada, authorized by section 2401(a), $52,000,000.

(5) For unspecified minor construction projects under section 2805 of title 10, United States Code, $14,200,000.

(6) For contingency construction projects of the Secretary of Defense under section 2804 of title 10, United States Code, $10,000,000.

(7) For architectural and engineering services and for construction design under section 2807 of title 10, United States Code, $94,400,000.

(8) For support of military family housing (including functions described in section 2833 of title 10, United States Code), $21,300,000, of which not more than $18,135,000 may be obligated or expended for the leasing of military family housing units worldwide.

(b) LIMITATION OF TOTAL COST OF CONSTRUCTION PROJECTS.—Notwithstanding the cost variations authorized by section 2853 of title 10, United States Code, and any other cost variations authorized by law, the total cost of all projects carried out under section 2421 may not exceed the total amount authorized to be appropriated under paragraph (1) of subsection (a).

TITLE XXV—NORTH ATLANTIC TREATY ORGANIZATION INFRASTRUCTURE

SEC. 2501. AUTHORIZED NATO CONSTRUCTION AND LAND ACQUISITION PROJECTS

The Secretary of Defense may make contributions for the North Atlantic Treaty Organization Infrastructure Program as provided in section 2806 of title 10, United States Code, in an amount not to exceed the sum of the amount authorized to be appropriated for this purpose in section 2502 of this Act and the amount collected from the North Atlantic Treaty Organization as a result of construction previously financed by the United States.

SEC. 2502. AUTHORIZATION OF APPROPRIATIONS, NATO

Funds are hereby authorized to be appropriated for fiscal years beginning after September 30, 1989, for contributions by the Secretary of Defense under section 2806 of title 10, United States Code, for the share of the United States of the cost of projects for the North Atlantic Treaty Organization Infrastructure Program as authorized by section 2501 of this Act, in the amount of $424,714,000.

TITLE XXVI—GUARD AND RESERVE FORCES FACILITIES

PART A—FISCAL YEAR 1990

SEC. 2601. AUTHORIZED GUARD AND RESERVE CONSTRUCTION AND LAND ACQUISITION PROJECTS

Funds are hereby authorized to be appropriated for fiscal years beginning after September 30, 1989, for the costs of acquisition, architectural and engineering services, and construction of facilities for the Guard and Reserve Forces, and for contributions therefor, under chapter 133 of title 10, United States Code (including the cost of acquisition of land for those facilities), the following amounts:

(1) For the Department of the Army—

(A) for the Army National Guard of the United States, $187,411,000, and

(B) for the Army Reserve, $80,800,000.

(2) For the Department of the Navy, for the Naval and Marine Corps Reserve, $56,600,000.

(3) For the Department of the Air Force—

(A) for the Air National Guard of the United States, $198,628,000, and

(B) for the Air Force Reserve, $46,200,000.

PART B—FISCAL YEAR 1991

SEC. 2621. AUTHORIZED GUARD AND RESERVE CONSTRUCTION AND LAND ACQUISITION PROJECTS

Funds are hereby authorized to be appropriated for fiscal years beginning after September 30, 1990, for the costs of acquisition, architectural and engineering services, and construction of facilities for the Guard and Reserve Forces, and for contributions therefor, under chapter 133 of title 10, United States Code (including the cost of acquisition of land for those facilities), the following amounts:

(1) For the Department of the Army—

(A) for the Army National Guard of the United States, $119,500,000, and

(B) for the Army Reserve, $62,800,000.

(2) For the Department of the Navy, for the Naval and Marine Corps Reserve, $53,300,000.

(3) For the Department of the Air Force—

(A) for the Air National Guard of the United States, $107,500,000, and

(B) for the Air Force Reserve, $38,500,000.

TITLE XXVII—EXPIRATION OF AUTHORIZATIONS

SEC. 2701. EXPIRATION OF AUTHORIZATIONS AND AMOUNTS REQUIRED TO BE SPECIFIED BY LAW

(a) IN GENERAL.—Authorizations of military construction projects, land acquisition, family housing projects and facilities, contributions to the NATO Infrastructure Program, and Guard and Reserve projects in titles XXI, XXII, XXIII, XXIV, XXV, and XXVI of this subdivision (and authorizations of appropriations therefor) shall be effective only to the extent that appropriations are made for such projects, acquisition, facilities, and contributions during the first session of the One Hundred First Congress.

(b) EXPIRATION OF AUTHORIZATIONS AFTER TWO YEARS IN CERTAIN CASES.—(1) Except as provided in subsections (a) and (c)(1), all authorizations contained in part A of each of titles XXI, XXII, XXIII, and XXIV and the authorization in title XXV for military construction projects, land acquisition, family housing projects and facilities, and contributions to the NATO Infrastructure Program (and authorizations of appropriations therefor) shall expire on October 1, 1991, or the date of the enactment of an Act authorizing funds for military construction for fiscal year 1992, whichever is later.

(2) Except as provided in subsections (a) and (c)(2), all authorizations contained in part B of each of titles XXI, XXII, XXIII, and XXIV, for military construction projects, land acquisition, and family housing projects and facilities (and authorizations of appropriations therefor) shall expire on October 1, 1992, or the date of the enactment of an Act authorizing funds for military construction for fiscal year 1993, whichever is later.

(c) EXCEPTIONS.—(1) The provisions of subsection (b)(1) do not apply to authorizations for military construction projects, land acquisition, family housing projects and facilities, and contributions to the NATO Infrastructure Program (and authorizations of appropriations therefor), for which appropriated funds have been obligated before October 1, 1991, or the date of the enactment of an Act authorizing funds for military construction for fiscal year 1992, whichever is later, for military construction projects, land acquisitions, family housing projects and facilities, or contributions to the NATO Infrastructure Program.

(2) The provisions of subsection (b)(2) do not apply to authorizations for military construction projects, land acquisition, and family housing projects and facilities (and authorizations of appropriations therefor), for which appropriated funds have been obligated before October 1, 1992, or the date of the enactment of an Act authorizing funds for military construction for fiscal year 1993, whichever is later, for military construction projects, land acquisitions, family housing projects and facilities.

TITLE XXVIII—GENERAL PROVISIONS

PART A—MILITARY CONSTRUCTION PROGRAM CHANGES

SEC. 2801. FAMILY HOUSING RENTAL GUARANTEE PROGRAM

Section 802(b) of the Military Construction Authorization Act, 1984 (10 U.S.C. 2821 note) is amended—

(1) by striking out clause (11) and inserting in lieu thereof the following:

"(11) shall include a provision authorizing the Secretary of the military department concerned, or the Secretary of Transportation with respect to the Coast Guard, to take such action as the Secretary considers appropriate to protect the interests of the United States, including rendering the agreement null and void if, in the opinion of the Secretary, the owner of the housing fails to maintain a satisfactory level of operation and maintenance;";

(2) by striking out the period at the end of paragraph (12) and inserting in lieu thereof a semicolon; and

(3) by adding after paragraph (12) the following new paragraphs:

"(13) may provide that utilities, trash collection, snow removal, and entomological services will be furnished by the Federal Government at no cost to the occupant to the same extent that these items are provided to occupants of housing owned by the Federal Government; and

"(14) may require that rent collection and operation and maintenance services in connection with the housing be under the terms of a separate agreement or be carried out by personnel of the Federal Government.".

SEC. 2802. LEASING OF MILITARY FAMILY HOUSING

Section 2828 of title 10, United States Code, is amended—

(1) in subsection (b)(2), by striking out "$10,000" and inserting in lieu thereof "$12,000";

(2) in subsection (b)(3)—

(A) by striking out "(A) Except as provided in subparagraph (B), not" and inserting in lieu thereof "Not";

(B) by striking out "$10,000" and "$12,000" and inserting in lieu thereof "$12,000" and "$14,000", respectively; and

(C) by striking out subparagraph (B);

(3) in subsection (e)(1), by striking out the first sentence and inserting in lieu thereof the following: "Expenditures for the rental of family housing in foreign countries (including the costs of utilities, maintenance, and operation) may not exceed $20,000 per unit per annum as adjusted for foreign currency fluctuation from October 1, 1987."; and

(4) in subsection (e)(2), by striking out "38,000" and inserting in lieu thereof "53,000".

SEC. 2803. LONG TERM FACILITIES CONTRACTS

Section 2809 of title 10, United States Code, is amended—

(1) in subsection (a)(1)(B)(ii), by striking out "Potable" and inserting in lieu thereof "Utilities, including potable";

(2) in subsection (b), by striking out "child care centers" and inserting in lieu thereof "activities and services described in clause (i) or (ii) of subsection (a)(1)(B)"; and

(3) in subsection (c), by striking out "1989" and inserting in lieu thereof "1991".

SEC. 2804. IMPROVEMENTS TO FAMILY HOUSING UNITS FOR THE HANDICAPPED

Section 2825(b)(1) of title 10, United States Code, is amended—

(1) by inserting "(A)" after "will exceed"; and

(2) by inserting the following before the period: ", or (B) in the case of improvements necessary to make the unit suitable for habitation by a handicapped person, $60,000 multiplied by such index".

SEC. 2805. DOMESTIC BUILD-TO-LEASE PROGRAM

Section 2828(g) of title 10, United States Code, is amended—

(1) by striking out paragraphs (7) and (8) and inserting in lieu thereof the following:

"(7) Each of the Secretaries concerned may enter into one or more contracts under this subsection for a number of family housing units not exceeding the number specified for that Secretary as follows:

"(A) The Secretary of the Army, 6,300.

"(B) The Secretary of the Navy, 6,200.

"(C) The Secretary of the Air Force, 5,800.

"(D) The Secretary of Transportation with respect to the Coast Guard, 900.";

(2) by redesignating paragraphs (9) and (10) as paragraphs (8) and (9), respectively; and

(3) in paragraph (8), as so redesignated, by striking out "1989" and inserting in lieu thereof "1991".

SEC. 2806. TURN-KEY SELECTION PROCEDURES

Section 2862 of title 10, United States Code, is amended—

(1) in subsection (a)(1), by striking out the second sentence; and

(2) in subsection (c), by striking out "1990" and inserting in lieu thereof "1991".

SEC. 2807. PROHIBITION OF FUNDING FOR CERTAIN MILITARY CONSTRUCTION CONTRACTS ON GUAM

(a) IN GENERAL.—Subchapter III of chapter 169 of title 10, United States Code, is amended by adding after section 2863 the following new section:

"§ 2864. Military construction contracts on Guam

"(a) IN GENERAL.—Except as provided in subsection (b), funds appropriated for military construction may not be obligated or expended with respect to any contract for a military construction project on Guam if any work is carried out on such project by any person who is a nonimmigrant alien described in section 101(a)(15)(H)(ii) of the Immigration and Nationality Act (8 U.S.C. 1101(a)(15)(H)(ii)).

"(b) EXCEPTION.—In any case in which there is no acceptable bid made in response to a solicitation for bids on a contract for a military construction project on Guam and the Secretary concerned makes a determination that the prohibition contained in subsection (a) is a significant deterrent to obtaining bids on such contract, the Secretary concerned may make another solicitation for bids on such contract and the prohibition contained in subsection (a) shall not apply to such contract after the 21-day period beginning on the date on which the Secretary concerned transmits to the Committees on Armed Services of the Senate and the House of Representatives a written notification of that determination.".

(b) CLERICAL AMENDMENT.—The table of sections for such subchapter is amended by adding after the item relating to section 2863 the following:

"2864. Military construction contracts on Guam.".

(c) EFFECTIVE DATE.—The amendments made by this section shall apply to contracts entered into, modified, or extended on or after the date of the enactment of this Act.

SEC. 2808. AUTHORIZED COST VARIATIONS

Section 2853 of title 10, United States Code, is amended to read as follows:

"§ 2853. Authorized cost variations

"(a) Except as provided in subsection (c) or (d), the cost authorized for a military construction project or for the construction, improvement, and acquisition of a military family housing project may be increased by not more than 25 percent of the amount appropriated for such project or 200 percent of the minor construction project ceiling specified in section 2805(a)(1), whichever is less, if the Secretary concerned determines that such an increase in cost is required for the sole purpose of meeting unusual variations in cost and that such variations in cost could not have reasonably been anticipated at the time the project was approved originally by Congress.

"(b) Except as provided in subsection (c), the scope of work for a military construction project or for the construction, improvement, and acquisition of a military family housing project may be reduced by not more than 25 percent from the amount approved for that project, construction, improvement, or acquisition by Congress.

"(c) The limitation on cost increase in subsection (a) or the limitation on scope reduction in subsection (b) does not apply if—

"(1) the increase in cost or reduction in scope is approved by the Secretary concerned;

"(2) the Secretary concerned notifies the appropriate committees of Congress in writing of the increase or reduction and the reasons therefor; and

"(3) a period of 21 days has elapsed after the date on which the notification is received by the committees.

"(d) The limitation on cost increases in subsection (a) does not apply to a within-scope modification to a contract or to the settlement of a contractor claim under a contract if the increase in cost is approved by the Secretary concerned, and the Secretary concerned promptly submits written notification of the facts relating to the proposed increase in cost to the appropriate committees of Congress.".

SEC. 2809. LEASE-PURCHASE OF FACILITIES

(a) IN GENERAL.—Chapter 169 of title 10, United States Code, is amended by adding at the end of subchapter I the following new section:

"§ 2812. Lease-purchase of facilities

"(a)(1) The Secretary concerned may enter into an agreement with a private contractor for the lease of a facility of the kind specified in paragraph (2) if the facility is provided at the expense of the contractor on a military installation under the jurisdiction of the Department of Defense.

"(2) The facilities that may be leased pursuant to paragraph (1) are as follows:

"(A) Administrative office facilities.

"(B) Troop housing facilities.

"(C) Energy production facilities.

"(D) Utilities, including potable and waste water treatment facilities.

"(E) Hospital and medical facilities.

"(F) Transient quarters.

"(G) Depot or storage facilities.

"(H) Child care centers.

"(b) Leases entered into under subsection (a)—

"(1) may not exceed a term of 32 years;

"(2) shall provide that, at the end of the term of the lease, title to the leased facility shall vest in the United States; and

"(3) shall include such other terms and conditions as the Secretary concerned determines are necessary or desirable to protect the interests of the United States.

"(c)(1) The Secretary concerned may not enter into a lease under this section until—

"(A) the Secretary submits to the appropriate committees of Congress a justification of the need for the facility for which the proposed lease is being entered into and an economic analysis (based upon accepted life-cycle costing procedures) that demonstrates the cost effectiveness of the proposed lease compared with a military construction project for the same facility; and

"(B) a period of 21 days has expired following the date on which the justification and economic analysis are received by the committees.

"(2) Each Secretary concerned may, under this section, enter into—

"(A) not more than three leases in fiscal year 1990; and

"(B) not more than five leases in each of the fiscal years 1991 and 1992.

"(d) Each lease entered into under this section shall include a provision that the obligation of the United States to make payments under the lease in any fiscal year is subject to the availability of appropriations for that purpose.".

(b) CLERICAL AMENDMENT.—The table of sections at the beginning of subchapter I of such chapter is amended by adding at the end the following new item:

"2812. Lease-purchase of facilities.".

PART B—LAND TRANSACTIONS

SEC. 2811. LAND CONVEYANCE AT MARINE CORPS AIR STATION, EL TORO, CALIFORNIA, AND CONSTRUCTION OF FAMILY HOUSING AT MARINE CORPS AIR STATION, TUSTIN, CALIFORNIA

(a) IN GENERAL.—Subject to subsections (b) through (d), the Secretary of the Navy may—

(1) convey to the County of Orange, California, or its designee, or both, all right, title, and interest of the United States in and to approximately 77 acres of real property, including improvements thereon, consisting of three severable parcels at Marine Corps Air Station, El Toro, California; and

(2) accept monetary consideration for such property and expend it for the construction of additional military family housing units at Marine Corps Air Station, Tustin, California.

(b) CONDITIONS.—(1) The Secretary shall provide that all conveyances under this section are subject to the retention of appropriate interests to ensure that future use of the conveyed property is compatible with military activities.

(2) Conveyances under this section shall be made in exchange for payment of the fair market value of the property conveyed, as determined by an independent appraisal satisfactory to the Secretary and paid for by the County or its designees, or both.

(3) Any contract for construction authorized under this section shall be awarded through competitive procedures.

(4) The Secretary may not enter into any contract for construction under this section until after the 21-day period beginning on the date on which the Secretary transmits to the Committees on Armed Services and the Committees on Appropriations of the Senate and of the House of Representatives a detailed report on the proposed contract.

(5) The Secretary shall deposit into the Treasury as miscellaneous receipts any amount received under this section and not obligated under this section by the end of the four-year period beginning on the date of the receipt thereof.

(c) DESCRIPTION OF PROPERTY.—The exact acreage and legal description of the property to be conveyed under this section shall be determined by a survey satisfactory to the Secretary. The cost of such survey shall be borne by the County or its designee, or both.

(d) ADDITIONAL TERMS AND CONDITIONS.—The Secretary may require such additional terms and conditions in connection with the conveyance under this section as the Secretary determines appropriate to protect the interests of the United States.

SEC. 2812. LAND CONVEYANCE, FORT GILLEM, GEORGIA

(a) IN GENERAL.—Subject to subsections (b) through (e), the Secretary of the Army may convey, without consideration, to the State of Georgia all right, title, and interest of the United States in and to a parcel of real property, including improvements thereon, at Fort Gillem, Clayton County, Georgia, consisting of approximately 35.26 acres, for use by the State for the administration of the Georgia Department of Defense, the Georgia National Guard, and other Georgia National Guard activities.

(b) CONDITIONS OF CONVEYANCE.—The conveyance authorized by subsection (a) shall be subject to the following conditions:

(1) The property conveyed shall be used for the administration of the Georgia Department of Defense, the Georgia National Guard, and for other official activities of the Georgia National Guard.

(2) The Secretary may reserve to the United States (and shall include in the instrument of conveyance) such easements and other interests in the property conveyed pursuant to this section as the Secretary determines necessary or convenient for the operations, activities, and functions of the United States.

(c) REVERSION.—If the Secretary determines at any time that the property conveyed pursuant to this section is not being used for the purposes specified in subsection (b)(1), all right, title, and interest in and to the property (including improvements thereon) shall revert to the United States and the United States shall have the right of immediate entry thereon.

(d) DESCRIPTION OF PROPERTY.—The exact acreage and legal description of the property to be conveyed under this section shall be determined by a survey satisfactory to the Secretary. The cost of such survey shall be borne by the State.

(e) ADDITIONAL TERMS AND CONDITIONS.—The Secretary may require such additional terms and conditions in connection with the conveyance under this section as the Secretary determines appropriate to protect the interests of the United States.

SEC. 2813. LAND CONVEYANCE, HICKAM AIR FORCE BASE, HAWAII

(a) IN GENERAL.—Subject to subsections (b) through (h), the Secretary of the Air Force may convey to the State of Hawaii all right, title, and interest of the United States in and to approximately 22.88 acres of real property, including improvements thereon, located on the eastern boundary of Hickam Air Force Base, Hawaii.

(b) CONSIDERATION.—(1) In consideration for the conveyance authorized by subsection (a), the State of Hawaii shall, subject to subsection (c), be required to—

(A) pay for the cost of designing and constructing the facilities and improvements described in subsection (c)(2), in accordance with such specifications as the Secretary may prescribe;

(B) pay for the cost of relocating munition storage facilities designated by the Secretary and situated on the property to be conveyed by the Secretary;

(C) pay for the cost of relocating the existing security fence to conform with the new boundaries of Hickam Air Force Base after such conveyance; and

(D) pay to the United States the difference, if any, between the fair market value of the property conveyed, as determined by the Secretary, and the cost of facilities and improvements provided by the State of Hawaii under subsection (c).

(2) Costs incurred by the State of Hawaii in connection with the relocations referred to in clauses (B) and (C) of paragraph (1) may not be considered as any part of the payment of the fair market value of the property referred to in subsection (a).

(c) IMPLEMENTATION.—(1) The Secretary may—

(A) accept facilities and improvements referred to in paragraph (2) designed and constructed by the State of Hawaii, according to standards specified by the Secretary, that are equal in value to not less than the fair market value of the property to be conveyed by the Secretary; or

(B) in the discretion of the Secretary, accept payment of the fair market value for the property to be conveyed by the Secretary and design and construct facilities and improvements referred to in paragraph (2).

(2) The facilities and improvements to be provided by the State of Hawaii or constructed by the Secretary with funds provided by the State shall be for one or more of the following projects in the order of priority in which they are listed:

(A) One hundred units of military family housing at Hickam Air Force Base, Hawaii.

(B) Construction of an enlisted personnel dormitory at such Base.

(C) Renovation of an existing enlisted personnel dormitory at such Base.

(3) The Secretary may not enter into any contract for any construction project or improvement under this section until after the 21-day period beginning on the date on which the Secretary transmits to the Committees on Armed Services and the Committees on Appropriations of the Senate and the House of Representatives a detailed report on the proposed contract.

(d) SECURITY FOR CONVEYANCE.—(1) The Secretary may convey the property described in subsection (a) to the State of Hawaii before completion of the construction of the facilities referred to in subsection (b)(1) upon—

(A) the execution of an escrow agreement between the Secretary and the State of Hawaii and deposit by the State in an escrow account (pursuant to such agreement) of an amount equal to the fair market value of the property to be conveyed by the Secretary; or

(B) the acceptance by the Secretary of payment of such amount.

(2) The Secretary may obligate and expend funds accepted under paragraph (1)(B) for design and construction of the facilities and improvements referred to in subsection (c)(2).

(e) VACATING PROPERTY.—If the Secretary conveys property to the State under this section before completion of the construction of the facilities and improvements referred to in subsection (b)(1), the Secretary shall not be required to vacate the property until the completion, and approval by the Secretary, of the work described in subparagraphs (B) and (C) of subsection (b)(1).

(f) EXCESS AMOUNT.—The Secretary shall deposit into the Treasury as miscellaneous receipts any amount received under this section and not obligated under this section by the end of the four-year period beginning on the date of the receipt thereof.

(g) DESCRIPTION OF PROPERTY.—The exact acreage and legal description of the property to be conveyed under this section shall be

determined by a survey which is satisfactory to the Secretary. The cost of the survey shall be borne by the State of Hawaii.

(h) ADDITIONAL TERMS AND CONDITIONS.—The Secretary may require such additional terms and conditions in connection with the conveyance under this section as the Secretary determines appropriate to protect the interests of the United States.

SEC. 2814. LAND CONVEYANCES, KAPALAMA MILITARY RESERVATION, HAWAII

(a) IN GENERAL.—(1) Section 2332 of the Military Construction Authorization Act, 1988 and 1989 (division B of Public Law 100-180; 100 Stat. 1223), is amended by striking out subsections (a) through (e) and inserting in lieu thereof the following:

"(a) IN GENERAL.—Subject to subsections (b) through (f), the Secretary of the Army may sell and convey to the State of Hawaii approximately 35.92 acres of real property, including improvements thereon, at Kapalama Military Reservation, Hawaii, and may replace and relocate the facilities located on such property.

"(b) CONSIDERATION.—In consideration for the real property described in subsection (a), the State of Hawaii shall pay the United States an amount equal to not less than the fair market value of the property to be conveyed, as determined by the Secretary.

"(c) USE OF SALE PROCEEDS.—The Secretary shall use the proceeds received from the sale of property authorized by this section—

"(1) for the cost of the design and construction of suitable replacement facilities to be constructed at Fort Shafter, Fort Kamehameha, Tripler Army Medical Center, and Schofield Barracks, Hawaii; and

"(2) for any cost incurred by the Department of the Army under this section with respect to the sale and relocation of facilities.

"(d) EXCESS AMOUNT.—(1) The Secretary may use any proceeds in excess of the amount required to pay costs referred to in subsection (c) for the implementation of the plan established by the Secretary of the Army on March 1, 1988, for the future use and development of Fort DeRussy, Hawaii, except that such proceeds may not be used to pay for the construction of any nonappropriated-fund project identified in such plan.

"(2) At the end of the ten-year period beginning on the date of the enactment of the Military Construction Authorization Act, 1989, the Secretary shall deposit any amount received and not expended under this section into the Treasury as miscellaneous receipts.".

(2) Subsections (f) and (g) of section 2332 of such Act are redesignated as subsections (e) and (f), respectively.

(b) SAVINGS PROVISION.—The provisions of section 2332 of the Military Construction Authorization Act, 1988 and 1989, as in effect on the day before the date of the enactment of this Act, shall continue to apply with respect to the sale of any property referred to in such section that was sold pursuant to such section before the date of the enactment of this Act.

(c) CEDED LANDS.—(1) Subject to paragraphs (2) through (4), the Secretary of the Army shall convey to the State of Hawaii, without consideration other than that described in paragraph (2), all right, title, and interest of the United States in and to approximately 17.8 acres of ceded lands, including improvements thereon, at Kapalama Military Reservation, Hawaii.

(2) In consideration for the conveyance authorized under paragraph (1) the State of Hawaii shall pay to the United States the fair market value, as determined by the Secretary, of any improvements on the land not made at the State's expense. The Secretary shall deposit any amount received into the Treasury as miscellaneous receipts.

(3) The exact acreage and legal description of the land to be conveyed under paragraph (1) shall be determined by a survey satisfactory to the Secretary. The cost of such survey shall be borne by the State of Hawaii.

(4) The Secretary may require such additional terms and conditions in connection with the conveyance under this subsection as the Secretary determines appropriate to protect the interests of the United States.

SEC. 2815. LAND CONVEYANCE, PUBLIC WORKS CENTER, GREAT LAKES, ILLINOIS

(a) IN GENERAL.—Subject to subsections (b) through (f), the Secretary of the Navy may—

(1) sell and convey all right, title, and interest of the United States in and to a parcel of real property, including improvements thereon, consisting of approximately 14 acres of land, comprising that portion of the Public Works Center, Great Lakes, located south of the intersection of Desplaines Avenue and West Roosevelt Road, Forest Park, Illinois; and

(2) use the proceeds from the sale of such property to construct not more than 35 units of military family housing at the Naval Air Station, Glenview, Illinois.

(b) COMPETITIVE PROCEDURES; MINIMUM SALE PRICE.—(1) The Secretary shall use competitive procedures for the sale of the property described in subsection (a)(1).

(2) In no event may the property be sold for less than the greater of (A) the fair market value of the property, as determined by the Secretary, or (B) the amount necessary to cover the costs of constructing replacement housing and relocating the tenants from such property.

(c) CONDITION OF SALE.—The conveyance authorized by subsection (a) shall be subject to the condition that the purchaser permit the Department of the Navy to continue to occupy, without consideration, the property to be conveyed until the replacement housing has been constructed or acquired by the Secretary, except that in no event may the Department continue to occupy the property pursuant to this subsection more than two years after the date of the conveyance.

(d) USE OF FUNDS.—(1) The Secretary may use the proceeds from the sale of the property described in subsection (a) for payment of the following costs:

(A) The cost of design and construction of not more than 35 units of military family housing to be constructed at the Naval Air Station, Glenview, Illinois.

(B) The cost of relocating the tenants occupying the housing facilities located on the property described in subsection (a)(1) to new housing facilities.

(C) The cost of appraisals and other costs related to the sale of the property.

(2) The Secretary may not enter into any contract for construction under this section until after the 21-day period beginning on the

date on which the Secretary transmits to the Committees on Armed Services and the Committees on Appropriations of the Senate and of the House of Representatives a detailed report on the proposed contract.

(3) The Secretary shall deposit into the Treasury as miscellaneous receipts any amount received under this section and not obligated under this section by the end of the four-year period beginning on the date of receipt thereof.

(e) DESCRIPTION OF PROPERTY.—The exact acreage and legal description of any property to be conveyed under this section shall be determined by a survey satisfactory to the Secretary. The cost of such survey shall be borne by the purchaser.

(f) ADDITIONAL TERMS AND CONDITIONS.—The Secretary may require such additional terms and conditions in connection with the conveyance under this section as the Secretary determines appropriate to protect the interests of the United States.

SEC. 2816. LAND CONVEYANCE, FORT KNOX, KENTUCKY

(a) IN GENERAL.—Subject to subsections (b) through (f), the Secretary of the Army may sell and convey all right, title, and interest of the United States in and to a parcel of real property consisting of approximately 12 acres, including improvements thereon, contiguous to the corporate limits of the City of Radcliff, Kentucky, and bounded on the east by U.S. Highway 31W, by the Radcliff city park on the south, by residential property to the west, and by Fort Knox to the north.

(b) COMPETITIVE BID REQUIREMENT; MINIMUM SALE PRICE.—(1) The Secretary shall use competitive procedures for the sale of the property referred to in subsection (a).

(2) In no event may any of the property referred to in subsection (a) be sold for less than the fair market value of the property, as determined by the Secretary.

(c) USE OF PROCEEDS.—(1) The Secretary shall use the proceeds from the sale of the property referred to in subsection (a) for the construction of up to four units of military family housing at Fort Knox, Kentucky.

(2) The Secretary shall deposit into the Treasury as miscellaneous receipts any amount received under this section and not obligated under this section by the end of the four-year period beginning on the date of receipt thereof.

(d) NOTICE.—The Secretary may not enter into any contract for construction under this section until after the 21-day period beginning on the date on which the Secretary transmits to the Committees on Armed Services and the Committees on Appropriations of the Senate and of the House of Representatives a detailed report on the proposed contract.

(e) DESCRIPTION OF PROPERTY.—The exact acreage and legal description of the property to be conveyed under this section shall be determined by a survey satisfactory to the Secretary. The cost of such survey shall be borne by the purchaser.

(f) ADDITIONAL TERMS AND CONDITIONS.—The Secretary may require such additional terms and conditions in connection with the conveyance under this section as the Secretary determines appropriate to protect the interests of the United States.

SEC. 2817. RELEASE OF REVERSIONARY INTEREST TO STATE OF MINNESOTA

(a) IN GENERAL.—Subject to subsection (b) through (d), the Secretary of the Army may release—

(1) to the State of Minnesota the reversionary interest of the United States in approximately 35 acres of real property at Fort Snelling, Minnesota, including improvements thereon, known as "Area J" and conveyed from the United States to the State of Minnesota by a quitclaim deed dated August 17, 1971; and

(2) the State of Minnesota from all covenants and agreements contained in such quitclaim deed that relate to such property.

(b) CONSIDERATION.—In consideration of the release under subsection (a), the State of Minnesota shall convey to the United States, without consideration, the property referred to in subsection (a)(1) for use by the Department of the Army.

(c) DESCRIPTION OF PROPERTY.—The exact acreage and legal description of the property from which the reversionary interest is to be released shall be determined by surveys satisfactory to the Secretary of the Army and the State of Minnesota.

(d) ADDITIONAL TERMS AND CONDITIONS.—(1) The Secretary may require such additional terms and conditions in connection with the release under this section as the Secretary determines appropriate to protect the interests of the United States.

(2) The Secretary of the Army may accept the conveyance of the property referred to in subsection (b) subject to a reversionary interest in the State of Minnesota. The reversionary interest may provide that if the property is not used for Army purposes and the preservation of the historic structures lying thereon in conformity with Department of the Interior standards for properties on the National Register of Historic Places, the property shall revert to the State of Minnesota.

SEC. 2818. LAND CONVEYANCE, NAVAL RESERVE CENTER, KEARNEY, NEW JERSEY

(a) IN GENERAL.—Subject to sections (b) through (d) the Secretary of the Navy may convey to Hudson County, New Jersey, all right, title, and interest of the United States in and to a parcel of real property, including improvements thereon, consisting of approximately 2.9 acres, that comprises a portion of the Naval Reserve Center, Kearney, New Jersey.

(b) CONSIDERATION.—(1) In consideration for the conveyance authorized by subsection (a), Hudson County, New Jersey, shall demolish two Naval Reserve Center buildings on the Naval Reserve Center referred to in that subsection, improve the motor vehicle parking facilities on such Naval Reserve Center, and provide additional motor vehicle parking facilities on land adjacent to or near the Naval Reserve Center (and owned by Hudson County) for use by the United States. The improved and the additional parking facilities shall be acceptable to the Secretary, and the additional parking facilities shall be provided on such terms and conditions and for such period as the Secretary shall prescribe.

(2) If the fair market value of the land to be conveyed under subsection (a) exceeds the fair market value of the consideration received under paragraph (1), as determined by the Secretary, Hudson County shall pay the amount of the difference to the United States. Any such payment shall be deposited into the Treasury as miscellaneous receipts.

(c) DESCRIPTION OF PROPERTY.—The exact acreage and legal description of the property to be conveyed under this section described in subsection (a) shall be determined by a survey satisfactory to the Secretary. The cost of such survey shall be borne by Hudson County, New Jersey.

(d) ADDITIONAL TERMS AND CONDITIONS.—The Secretary may require such additional terms and conditions in connection with any conveyance under this section as the Secretary determines appropriate to protect the interests of the United States.

SEC. 2819. TRANSFER OF JURISDICTION OVER CERTAIN LANDS AT SANDIA, NEW MEXICO

(a) IN GENERAL.—The Secretary of Defense may transfer to the Secretary of Energy, without consideration, jurisdiction and control of the real property, including improvements thereon, described in subsection (b) for use by the Department of Energy in providing a location for the Center for National Security and Arms Control.

(b) DESCRIPTION OF PROPERTY.—(1) The real property referred to in subsection (a) is a tract of land, including improvements thereon, located in Bernalillo County, New Mexico, in a portion of section 32, township 10 north, range 4 east, New Mexico principal meridian, and consisting of approximately 5.6 acres.

(2) The exact acreage and legal description of the property referred to in paragraph (1) shall be determined by a survey satisfactory to the Secretary of Defense.

SEC. 2820. LAND CONVEYANCE, PITTSBURGH, PENNSYLVANIA

(a) IN GENERAL.—Subject to subsections (b) through (f), the Secretary of the Navy may convey to Carnegie-Mellon University all right, title, and interest of the United States in and to approximately 1.29 acres of land located at 4902 Forbes Avenue, Allegheny County, Pittsburgh, Pennsylvania, including improvements thereon, comprising the Naval and Marine Corps Reserve Center.

(b) CONSIDERATION.—In consideration for the sale and conveyance, the University shall pay to the United States the fair market value, as determined by the Secretary, of the property to be conveyed by the United States under subsection (a).

(c) USE OF FUNDS.—(1) Funds received by the Secretary under subsection (b) may be used to pay for the acquisition or construction of a replacement facility, including the acquisition of real property, in the greater Pittsburgh area to be used as a Naval and Marine Corps Reserve Center.

(2) The Secretary shall deposit into the Treasury as miscellaneous receipts any amount received under this section and not obligated under paragraph (1) within the four-year period beginning on the date of the receipt thereof.

(d) NOTICE.—The Secretary may not enter into any contract for acquisition or construction of replacement facilities under this section until after the 21-day period beginning on the date on which the Secretary transmits to the Committees on Armed Services and the Committees on Appropriations of the Senate and of the House of Representatives a detailed report on the proposed contract. Reports.

(e) DESCRIPTION OF PROPERTY.—The exact acreage and legal description of the property to be conveyed under this section shall be determined by a survey satisfactory to the Secretary. The cost of such survey shall be borne by the University.

(f) ADDITIONAL TERMS AND CONDITIONS.—The Secretary may require such additional terms and conditions in connection with the conveyance under this section as the Secretary determines appropriate to protect the interests of the United States.

SEC. 2821. LAND CONVEYANCE, FORT BELVOIR, VIRGINIA

(a) IN GENERAL.—Subject to subsections (b) through (h), the Secretary of the Army may convey to any grantee selected in accordance with subsection (e) all right, title, and interest of the United States in and to all or any portion of the parcel of real property, including improvements thereon, at Fort Belvoir, Virginia, consisting of approximately 820 acres and known as the Engineer Proving Ground.

(b) CONSIDERATION.—(1) In consideration for the conveyance authorized in subsection (a), the grantee shall—

(A) construct facilities for the Department of the Army referred to in subsection (c)(1)(D);

(B) permit use by, or grant title to, the Department of such facilities; and

(C) make infrastructure improvements for the Department of the Army referred to subsection (c)(1)(D),

as may be specified by the Secretary in an agreement to be entered into by the grantee and the Secretary in connection with the conveyance.

(2) In no event may the value of the consideration provided by the grantee pursuant to paragraph (1) be less than the fair market value, as determined by the Secretary, of the property conveyed to the grantee pursuant to this section.

(c) CONTENT OF AGREEMENT.—(1) An agreement entered into under this section shall include the following:

(A) A requirement that the grantee develop the real property conveyed to the grantee pursuant to this section as a balanced, mixed-use development.

(B) A requirement that the development of the property include improvements to public transportation systems, utilities, and telecommunications on and off the property, and any other infrastructure improvements that may be specified by the Secretary in connection with such development.

(C) A requirement that the development and all such improvements comply with the specifications of a master plan formulated for the real property by the Secretary and agreed to by the appropriate officials of the County of Fairfax, Virginia, and the Commonwealth of Virginia.

(D) A requirement that the grantee construct facilities and make infrastructure improvements for the Department of the Army that the Secretary determines are necessary for the Department at Fort Belvoir and at other sites at which activities will be relocated as a result of the conveyance made under this section.

(E) A requirement that the construction of facilities and infrastructure improvements referred to in subparagraph (D) be carried out in accordance with plans and specifications approved by the Secretary.

(F) Such other terms and conditions as the Secretary and the grantee may agree upon.

(2) The Secretary may provide that the agreement be subject to review and approval by the appropriate officials of the County of Fairfax, Virginia, and the Commonwealth of Virginia.

(d) NOTICE.—The Secretary may not enter into any agreement under this section until the expiration of 60 days following the date on which the Secretary transmits to the Committees on Armed Services and the Committees on Appropriations of the Senate and of the House of Representatives a report containing the details of the proposed agreement. Reports.

(e) SELECTION OF GRANTEE.—The Secretary shall use competitive procedures for the selection of a grantee. In evaluating the offers of prospective grantees, the Secretary shall consider the technical sufficiency of the offers and the cost of constructing the required facilities and making the required infrastructure improvements for the Department of the Army, as contained in the offers.

(f) REVERSION.—If the Secretary determines that the grantee—

(1) is unable or unwilling to develop the real property conveyed to the grantee under this section in accordance with the agreement entered into by the grantee under this section; or

(2) is unable or unwilling to construct any facility or complete any infrastructure improvement for the Department of the Army in accordance with such agreement,

all right, title, and interest in and to the real property conveyed to such grantee in connection with such agreement shall automatically revert to the United States, regardless of the reason for such inability or unwillingness, and the United States shall have the right of immediate entry thereon.

(g) DESCRIPTION OF PROPERTY.—The exact acreage and legal description of property to be conveyed under this section shall be determined by surveys satisfactory to the Secretary. The cost of any such survey shall be borne by the grantee.

(h) ADDITIONAL TERMS AND CONDITIONS.—The Secretary may require such additional terms and conditions with respect to the conveyance under this section as the Secretary considers appropriate to protect the interests of the United States.

SEC. 2822. MODIFICATION OF REVERSIONARY INTEREST, PORT OF BENTON, WASHINGTON

(a) IN GENERAL.—(1) Subject to subsections (b) through (d), the Secretary of the Army may modify the reversionary interest of the United States in and to approximately 22 acres of real property, including improvements thereon, constituting a portion of a larger tract of land conveyed to the Port of Benton, Washington, by quitclaim deed dated June 1, 1964.

(2) The deed referred to in paragraph (1) is the quitclaim deed executed by the Secretary of the Army, dated June 1, 1964, which conveyed to the Port of Benton, Washington, pursuant to section 108 of the River and Harbor Act of 1960 (74 Stat. 486; 33 U.S.C. 578), approximately 290 acres of land owned by the United States.

(3) The 22-acre parcel of land referred to in paragraph (1) is bordered on the east by the Columbia River, on the north by First Street, on the south by the Tri-Cities University Center, and on the west by the Port of Benton property that is east of George Washington Way.

(b) MODIFICATION.—(1) The Secretary shall modify the reversionary interest referred to in subsection (a) in such manner as may be necessary to permit the Port of Benton, Washington, to donate Schools and colleges.

approximately 22 acres of the land conveyed by the deed referred to in subsection (a)(2) to Washington State University for the establishment of a university branch on the donated land.

(2) The modified reversionary interest shall provide that if at any time the Secretary determines that the donated land is not being used for the purpose described in paragraph (1), title to such land shall revert to the United States, the United States shall have the right of immediate entry thereon, and title to the land (including all improvements thereon) shall vest in the United States without compensation by the United States.

(c) DESCRIPTION OF PROPERTY.—The exact acreage and legal description of the property to be conveyed under this section shall be determined by a survey satisfactory to the Secretary of the Army The cost of such survey shall be borne by the Port of Benton, Washington.

(d) ADDITIONAL TERMS AND CONDITIONS.—The Secretary may require such additional terms and conditions in connection with the conveyance under this section as the Secretary determines appropriate to protect the interests of the United States.

PART C—PROVISIONS RELATING TO BASE CLOSURES AND REALIGNMENTS

SEC. 2831. HOMEOWNERS ASSISTANCE PROGRAM

(a) IN GENERAL.—Section 2832 of title 10, United States Code, is amended—

(1) by inserting "(a)" before "The Secretary"; and

(2) by adding at the end the following new subsection:

"(b)(1) Subject to paragraph (2) and notwithstanding subsection (i) of section 1013 of the Act referred to in subsection (a)—

"(A) the Secretary of Defense may transfer not more than $31,000,000 from the Department of Defense Base Closure Account, established by section 207 of the Defense Authorization Amendments and Base Closure and Realignment Act (Public Law 100-526; 102 Stat. 2627), to the fund established pursuant to subsection (d) of such section 1013 for use as part of such fund; and

"(B) any funds so transferred shall be available for obligation and expenditure for the same purposes that funds appropriated to such fund are available, except that such funds may not be obligated after September 30, 1991.

"(2) Amounts may be transferred under paragraph (1) only after the date on which the Committees on Armed Services and the Committees on Appropriations of the Senate and of the House of Representatives receive from the Secretary written notice of, and justification for, the transfer.".

10 USC 2832 note.

(b) EFFECTIVE DATE.—The amendments made by subsection (a) shall apply only to funds appropriated or transferred to, or otherwise deposited in, the Department of Defense Base Closure Account for, or during, fiscal years beginning after September 30, 1989.

10 USC 2687 note.

SEC. 2832. USE OF CLOSED BASES FOR PRISONS AND DRUG TREATMENT FACILITIES

(a) FINDINGS.—The Congress finds that—

(1) the war on drugs is one of the highest priorities of the Federal Government;

(2) to effectively wage the war on drugs, adequate penal and correctional facilities and a substantial increase in the number and capacity of drug treatment facilities are needed;

(3) under the base closure process, authorized by title II of the Defense Authorization Amendments and Base Closure and Realignment Act (Public Law 100-526; 102 Stat. 2627), 86 military bases are scheduled for closure; and

(4) facilities rendered excess by the base closure process should be seriously considered for use as prisons and drug treatment facilities, as appropriate.

(b) SENSE OF CONGRESS.—It is the sense of Congress that the Secretary of Defense should, pursuant to the provisions of title II of the Defense Authorization Amendments and Base Closure and Realignment Act, give priority to making real property (including the improvements thereon) of the Department of Defense rendered excess or surplus as a result of the recommendations of the Commission on Base Realignment and Closure available to another Federal agency or a State or local government for use as a penal or correctional facility or as a drug abuse prevention, treatment, or rehabilitation center.

SEC. 2833. NOTICE TO LOCAL AND STATE EDUCATIONAL AGENCIES OF ENROLLMENT CHANGES DUE TO BASE CLOSURES AND REALIGNMENTS

10 USC 2687 note.

(a) IDENTIFICATION OF ENROLLMENT CHANGES.—(1) Not later than January 1 of each year in which any activities necessary to close or realign a military installation under title II of the Defense Authorization Amendments and Base Closure and Realignment Act (Public Law 100-526; 102 Stat. 2627) are conducted, the Secretary of Defense shall identify, to the extent practicable, each local educational agency that will experience at least a 5-percent increase or at least a 10-percent reduction in the number of dependent children of members of the Armed Forces and of civilian employees of the Department of Defense enrolled in schools under the jurisdiction of such agency during the next academic year (compared with the number of such children enrolled in such schools during the preceding year) as a result of the closure or realignment of a military installation under that Act.

(2) The Secretary shall carry out this subsection in consultation with the Secretary of Education.

(b) NOTICE REQUIRED.—Not later than 30 days after the date on which the Secretary of Defense identifies a local educational agency under subsection (a), the Secretary shall transmit a written notice of the schedule for the closure or realignment of the military installation affecting that local educational agency to that local educational agency and to the State government education agency responsible for administering State government education programs involving that local educational agency.

SEC. 2834. REPORT

(a) REPORT REQUIREMENT.—Not later than November 15, 1989, the Comptroller General of the United States shall submit to the Secretary of Defense and the Committees on Armed Services of the Senate and the House of Representatives a report on the methodology, findings, and recommendations of the Commission on Base Realignment and Closure.

(b) CONTENT OF REPORT.—(1) In preparing the report, the Comptroller General should consider the following:

(A) The adequacy and accuracy of the information relied upon as a basis for the Commission's recommendations.

(B) The process used in the determination of military missions and requirements and the military value of the bases in meeting such missions and requirements.

(C) The criteria used to select bases to be closed or realigned.

(D) The findings regarding military and civilian personnel reductions and associated relocation and termination expenses.

(E) The findings regarding nonrecurring costs, including expenses such as costs of construction, personnel, and logistics.

(F) The findings regarding long-term, annual savings, including the estimated cost amortization period.

(G) The findings regarding assumed proceeds from property sales for each applicable initiative.

(H) The findings regarding any environmental restoration costs that must be incurred in order to make it possible to sell or transfer excess property.

(2) If any inaccuracies in the information referred to in paragraph (1)(A) are noted in the report, the Comptroller General shall include in the report an assessment of the effects of such inaccuracies upon the methodology, findings, and recommendations of the Commission.

PART D—MISCELLANEOUS PROVISIONS

SEC. 2841. WHITE SANDS MISSILE RANGE, NEW MEXICO

(a) IN GENERAL.—The Secretary of the Army may, subject to such terms and conditions as the Secretary considers appropriate to protect the interests of the United States, issue a revocable license to the Ova Noss Family Partnership, a California limited partnership, to conduct a search for treasure trove in the Victorio Peak region of White Sands Missile Range, New Mexico, and may provide the Ova Noss Family Partnership with necessary processing, administration, and support incident to the license, including transportation, communications, safety and security, ordnance disposal services, housing, and public affairs assistance that the Ova Noss Family Partnership cannot contract for directly.

(b) REIMBURSEMENT.—(1) The Secretary of the Army shall require the Ova Noss Family Partnership to reimburse the Department of the Army for—

(A) all costs related to providing such processing, administration, and support; and

(B) other costs or losses incurred by the Department of the Army in connection with or as a result of the search.

(2) Reimbursements for such costs shall be credited to the Department of the Army appropriation from which the costs were paid.

(c) REPORT.—For each fiscal year in which any action is carried out under this section, the Secretary shall transmit a report to the Committees on Armed Services of the Senate and of the House of Representatives containing an accounting of each action taken under this section during such fiscal year.

SEC. 2842. COMMUNITY PLANNING ASSISTANCE

The Secretary of Defense may use funds appropriated to the Department of Defense for fiscal year 1990 for planning and design

purposes to provide community planning assistance in the following amounts to the following communities:

(1) Not to exceed $250,000 of the planning and design funds of the Department of the Army for communities located near the newly established light infantry division posts at Fort Drum, New York.

(2) Not to exceed $250,000 of the planning and design funds of the Department of the Navy for communities located near the newly established Navy strategic dispersal program homeport at Everett, Washington.

(3) Not to exceed $250,000 of the planning and design funds of the Department of the Air Force for communities located near Whiteman Air Force Base, Knob Noster, Missouri.

SEC. 2843. DEVELOPMENT OF LAND AND LEASE OF FACILITY AT HENDERSON HALL, ARLINGTON, VIRGINIA

(a) IN GENERAL.—The Secretary of the Navy may—

(1) using funds provided by the Navy Mutual Aid Association, design, supervise, construct, and inspect a multipurpose facility of approximately 62,000 square feet to be located at Henderson Hall, Arlington, Virginia; and

(2) lease, without reimbursement, to the Navy Mutual Aid Association approximately one-third of the square footage of the facility to be constructed.

(b) TERMS OF LEASE.—The lease entered into under subsection (a)(2) shall—

(1) be for a term of 50 years;

(2) be in full consideration for the funds provided to the Secretary by the Navy Mutual Aid Association pursuant to subsection (a);

(3) provide that in the event the lease is canceled by the Secretary before expiration, the Secretary shall, as determined by the Secretary, provide comparable alternative space or, subject to the availability of funds, reimburse the Navy Mutual Aid Association for the unamortized cost of the building; and

(4) allow, at the discretion of the Secretary, for the Navy Mutual Aid Association to continue to use the space after the initial 50-year term, in compliance with laws and regulations applicable at that time.

(c) CONDITIONS.—(1) Title to the facility described in subsection (a)(1) shall be and remain in the United States.

(2) All construction authorized under this section shall be awarded through competitive procedures.

(3) Any lease or other agreement entered into under the authority of this section shall be subject to such terms and conditions as the Secretary determines appropriate to protect the interests of the United States.

SEC. 2844. REPORT REGARDING FORT MEADE RECREATION AREA

Delaware.

The Secretary of the Army shall, not later than 30 days after the date of the enactment of this Act, transmit to the Committees on Armed Services of the Senate and of the House of Representatives a report on the feasibility of conveying to the State of Delaware a parcel of property known as Fort Meade Recreation Area, formerly Fort Miles, Delaware, consisting of approximately 96 acres.

SEC. 2845. COOPERATIVE AGREEMENTS FOR LAND MANAGEMENT ON DEPARTMENT OF DEFENSE INSTALLATIONS

(a) IN GENERAL.—The Act entitled "An Act to promote effectual planning, development, maintenance, and coordination of wildlife, fish, and game conservation and rehabilitation in military reservations" (popularly known as the "Sikes Act"), approved September 15, 1960 (16 U.S.C. 670a et seq.), is amended by inserting after section 103 the following new section:

16 USC 670c-1.

"SEC. 103a. (a) The Secretary of Defense may enter into cooperative agreements with States, local governments, nongovernmental organizations, and individuals to provide for the maintenance and improvement of natural resources on, or to benefit natural and historic research on, Department of Defense installations.

"(b) A cooperative agreement shall provide for the Secretary of Defense and the other party or parties to the agreement—

"(1) to contribute funds on a matching basis to defray the cost of programs, projects, and activities under the agreement; or

"(2) to furnish services on a matching basis to carry out such programs, projects, and activities,

or to do both.

"(c) Cooperative agreements entered into under this section shall be subject to the availability of funds and shall not be considered, nor be treated as, cooperative agreements to which chapter 63 of title 31, United States Code, applies.".

(b) CONFORMING AMENDMENTS.—Section 106 of such Act (16 U.S.C. 670f) is amended—

(1) in subsection (a), by inserting "and cooperative agreements agreed to under section 103a" in the first sentence after "sections 101 and 102"; and

(2) in subsection (b), by striking out the period at the end of the first sentence and inserting in lieu thereof the following: ", and to carry out such functions and responsibilities as the Secretary may have under cooperative agreements entered into under section 103a.".

SEC. 2846. REIMBURSEMENT FOR COSTS ASSOCIATED WITH HOMEPORTING AT LAKE CHARLES, LOUISIANA

(a) IN GENERAL.—(1) Subject to subsections (b) through (e), the Secretary of the Navy may—

(A) reimburse the Lake Charles Harbor and Terminal District, Lake Charles, Louisiana, in an amount not to exceed $2,600,000 for actual expenses—

(i) that were incurred by the District before the date of the enactment of this Act for the construction of utilities and roads to serve the proposed Lake Charles Navy Homeport, which is to be closed pursuant to title II of the Defense Authorization Amendments and Base Closure and Realignment Act (Public Law 100-526; 102 Stat. 2626); and

(ii) that will be incurred by the District after the date of the enactment of this Act in connection with the construction of such utilities and roads as a direct result of the closing of the homeport, as determined by the Secretary;

(B) pay to the Lake Charles Harbor and Terminal District an amount not to exceed $1,300,000 for completion of the permanent access road to the proposed homeport from State Highway 384;

(C) take such action as may be necessary to release to the State of Louisiana any funds remaining in the trust account established by the State pursuant to the Memorandum of Agreement between the State and the Department of the Navy for use by the Department in connection with the construction of the Lake Charles Navy Homeport; and

(D) reimburse the State of Louisiana for any funds expended by the Navy from the trust account referred to in clause (C).

(2) The total of the amount of funds that may be released to the State of Louisiana pursuant to subparagraph (C) of paragraph (1) and paid to the State pursuant to subparagraph (D) of that paragraph may not exceed $5,000,000.

(b) SOURCE OF FUNDS.—Payments under this section shall be made from funds appropriated pursuant to the Military Construction Appropriations Act, 1988 (as contained in section 101(j) of Public Law 100-202; 101 Stat. 1329-311) for the construction of facilities at the proposed Lake Charles Navy Homeport. In no event may the total amount paid under this section by the Secretary exceed the amount appropriated for construction of homeport facilities at Lake Charles and remaining available for obligation after payment of all termination costs resulting from the closure of the Lake Charles Navy Homeport.

(c) LAND CONVEYANCE.—The Secretary shall convey to the Lake Charles Harbor and Terminal District, without consideration, approximately 38 acres of real property, including improvements and the sheet pile materials thereon, constituting the proposed Lake Charles Navy Homeport, Louisiana. Such lands are the same lands that were previously conveyed, without consideration, to the United States by the Lake Charles Harbor and Terminal District by special warranty deed dated March 14, 1988.

(d) CONDITION.—The reimbursements and conveyance provided for in this section shall be made subject to the condition that the agreement entered into by the Lake Charles Harbor and Terminal District, the State of Louisiana, and the United States entitled "Memorandum of Understanding for Donation of Land and Establishment of Homeport", dated June 11, 1986, shall be considered canceled and of no force or effect after such reimbursements and conveyance have been made by the Secretary.

(e) ADDITIONAL TERMS AND CONDITIONS.—The Secretary may require such additional terms and conditions under this section as the Secretary considers appropriate to protect the interests of the United States.

SEC. 2847. FEASIBILITY STUDY OF LAND TRANSFER FOR USE AS A CORRECTIONAL FACILITY

Virginia.
Courts, U.S.

(a) IN GENERAL.—(1) The Secretary of Defense shall, in consultation with the Attorney General of the United States, conduct a study of the feasibility of selling or otherwise transferring to the Commonwealth of Virginia, subdivisions thereof, or any combination of subdivisions thereof, a parcel of land of approximately one hundred acres not more than one hundred miles from the southern boundary of Arlington County, from the military installations within Virginia which encompass land that may be suitable for use by the Commonwealth of Virginia, subdivisions thereof, or any combination of subdivisions thereof, as a site for a medium security correctional facility for persons sentenced in the courts of Virginia or in a United States District Court in Virginia.

(2) The study required by paragraph (1) shall address, at a minimum, the following issues:

(A) Whether there are parcels of land within those installations of the size described which could be released from Federal control without severely affecting the present mission of such installations.

(B) A description of the parcels of land referred to in subparagraph (A).

(C) A description of the effects, if any, transfer of such parcels of land from Federal control would have on the ability of the Secretary of Defense to carry out effectively the missions of the Department of Defense.

(D) An analysis of the risk, if any, that might be posed to military personnel and their dependents housed on such installation by the operation of such a correctional facility on the parcels of land referred to in subparagraph (A).

(E) An estimate of the date on which the parcels of land referred to in subparagraph (A) would be available for transfer from Federal control.

(b) REPORT.—The report of the study described in subsection (a) shall be transmitted to the Committees on Armed Services of the Senate and of the House of Representatives not later than 60 days after the date of the enactment of this Act.

(c) SENSE OF CONGRESS.—It is the sense of the Congress that no land is to be conveyed or otherwise transferred for use as a correctional facility as a result, directly or indirectly, of the study carried out under this section unless—

(1) the unit or units of general local government having jurisdiction over the land will utilize the correctional facility to be located on the land; or

(2) such unit or units have approved formally the use of such land for a correctional facility.

SEC. 2848. CONSTRUCTION OF MILITARY FAMILY HOUSING AT MARINE CORPS AIR STATION, TUSTIN, CALIFORNIA

(a) AUTHORITY TO USE LITIGATION PROCEEDS.—Subject to subsections (b) through (d), upon final settlement in the case of Rossmoor Liquidating Trust against United States, in the United States District Court for the Central District of California (Case No. CV 82-0956 LEW (Px)), the Secretary of the Treasury shall deposit in a separate account any funds paid to the United States in settlement of such case. The Secretary of the Treasury shall make available, upon request, the amount in such account to the Secretary of the Navy solely for the construction of military family housing at Marine Corps Air Station, Tustin, California.

(b) UNITS AUTHORIZED.—Not more than 150 military family housing units may be constructed with funds referred to in subsection (a). The units authorized by this subsection are in addition to any units otherwise authorized to be constructed at Marine Corps Air Station, Tustin, California.

(c) PAYMENT OF EXCESS INTO TREASURY.—The Secretary of the Treasury shall deposit into the Treasury as miscellaneous receipts funds referred to in subsection (a) that have not been obligated for construction under this section within four years after receipt thereof.

Reports.

(d) LIMITATION.—The Secretary may not enter into any contract for the construction of military family housing under this section

until after the expiration of the 21-day period beginning on the day after the day on which the Secretary transmits to the Committees on Armed Services and the Committees on Appropriations of the Senate and the House of Representatives a report containing the details of such contract.

DIVISION C—DEPARTMENT OF ENERGY NATIONAL SECURITY AUTHORIZATIONS AND OTHER AUTHORIZATIONS

TITLE XXXI—DEPARTMENT OF ENERGY NATIONAL SECURITY PROGRAMS

PART A—NATIONAL SECURITY PROGRAMS AUTHORIZATIONS

SEC. 3101. OPERATING EXPENSES

Funds are authorized to be appropriated to the Department of Energy for fiscal year 1990 for operating expenses incurred in carrying out national security programs (including scientific research and development in support of the Armed Forces, strategic and critical materials necessary for the common defense, and military applications of nuclear energy and related management and support activities) as follows:

(1) For weapons activities, $3,774,573,000, to be allocated as follows:

(A) For research and development, $1,064,970,000.

(B) For weapons testing, $511,700,000.

(C) For production and surveillance, $2,100,000,000.

(D) For program direction, $97,903,000.

(2) For defense nuclear materials production, $1,654,691,000, to be allocated as follows:

(A) For production reactor operations, $578,049,000.

(B) For processing of defense nuclear materials, including naval reactors fuel, $589,609,000, of which $78,744,000 shall be used for special isotope separation.

(C) For supporting services, $282,868,000.

(D) For uranium enrichment for naval reactors, $168,900,000.

(E) For program direction, $35,265,000.

(3) For environmental restoration and management of defense waste and transportation, $1,441,875,000 to be allocated as follows:

(A) For environmental restoration, $572,000,000. Such funds may also be used for plant and capital equipment.

(B) For waste operation and projects, $699,696,000.

(C) For waste research and development, $115,225,000.

(D) For hazardous waste and compliance technology, $40,163,000.

(E) For transportatior management, $11,841,000.

(F) For program direction, $2,950,000.

(4) For verification and control technology, $159,146,000.

(5) For nuclear materials safeguards and security technology development program, $82,241,000.

(6) For security investigations, $41,200,000.

(7) For new production reactors, $203,500,000.

(8) For naval reactors development, $562,800,000.

SEC. 3102. PLANT AND CAPITAL EQUIPMENT

Funds are authorized to be appropriated to the Department of Energy for fiscal year 1990 for plant and capital equipment (including maintenance, restoration, planning, construction, acquisition, modification of facilities, and the continuation of projects authorized in prior years, land acquisition related thereto, and acquisition and fabrication of capital equipment not related to construction) necessary for national security programs as follows:

(1) For weapons activities:

Project 90-D-101, general plant projects, various locations, $28,130,000.

Project 90-D-102, nuclear weapons research, development, and testing facilities revitalization, Phase III, various locations, $1,000,000.

Project 90-D-103, environment, safety, and health improvements, various locations, $10,700,000.

Project 90-D-121, general plant projects, various locations, $30,850,000.

Project 90-D-122, production capabilities for the nuclear depth/strike bomb (ND/SB), various locations, $8,000,000.

Project 90-D-124, high explosives (HE) synthesis facility, Pantex Plant, Amarillo, Texas, $1,800,000.

Project 90-D-125, steam plant ash disposal facility, Y-12 Plant, Oak Ridge, Tennessee, $1,500,000.

Project 90-D-126, environmental, safety, and health enhancements, various locations, $26,700,000.

Project 89-D-122, production waste storage facilities, Y-12 Plant, Oak Ridge, Tennersee, $9,200,000.

Project 89-D-125, plutonium recovery modification project, Rocky Flats Plant, Golden, Colorado, $45,000,000.

Project 89-D-126, environmental, safety, and health upgrade, Phase II, Mound Plant, Miamisburg, Ohio, $3,500,000.

Project 88-D-102, sanitary wastewater systems consolidation, Los Alamos National Laboratory, Los Alamos, New Mexico, $3,100,000.

Project 88-D-104, safeguards and security upgrade, Phase II, Los Alamos National Laboratory, Los Alamos, New Mexico, $1,000,000.

Project 88-D-105, special nuclear materials research and development laboratory replacement, Los Alamos National Laboratory, Los Alamos, New Mexico, $44,000,000.

Project 88-D-106, nuclear weapons research, development, and testing facilities revitalization, Phase II, various locations, $94,400,000.

Project 88-D-122, facilities capability assurance program, various locations, $83,099,000.

Project 88-D-123, security enhancements, Pantex Plant, Amarillo, Texas, $5,500,000.

Project 88-D-124, fire protection upgrade, various locations, $5,400,000.

Project 88-D-125, high explosive machining facility, Pantex Plant, Amarillo, Texas, $36,000,000.

Project 87-D-104, safeguards and security enhancement, Phase II, Lawrence Livermore National Laboratory, Livermore, California, $7,000,000.

Project 87-D-122, short-range attack missile II (SRAM II) warhead production facilities, various locations, $41,200,000.

Project 86-D-103, decontamination and waste treatment facility, Lawrence Livermore National Laboratory, Livermore, California, $5,200,000.

Project 86-D-130, tritium loading facility replacement, Savannah River Plant, Aiken, South Carolina, $24,025,000.

Project 85-D-105, combined device assembly facility, Nevada Test Site, Nevada, $9,460,000.

(2) For materials production:

Project 90-D-141, Idaho chemical processing plant fire protection, Idaho National Engineering Laboratory, Idaho, $3,500,000.

Project 90-D-142, coal storage facility environmental upgrade, Feed Materials Production Center, Fernald, Ohio, $920,000.

Project 90-D-143, plutonium finishing plant fire safety and loss limitation, Richland, Washington, $800,000.

Project 90-D-146, general plant projects, various locations, $36,802,000.

Project 90-D-149, plantwide fire protection, Phase I, Savannah River, South Carolina, $4,900,000.

Project 90-D-150, reactor safety assurance, Phase I, Savannah River, South Carolina, $12,700,000.

Project 90-D-151, engineering center, Savannah River, South Carolina, $7,000,000.

Project 89-D-140, additional separations safeguards, Savannah River, South Carolina, $10,300,000.

Project 89-D-141, M-area waste disposal, Savannah River, South Carolina, $7,800,000.

Project 89-D-142, reactor effluent cooling water thermal mitigation, Savannah River, South Carolina, $40,000,000.

Project 89-D-148, improved reactor confinement system, design only, Savannah River, South Carolina, $7,100,000.

Project 88-D-153, additional reactor safeguards, Savannah River, South Carolina, $6,400,000.

Project 87-D-159, environmental, health, and safety improvements, Phases I, II, and III, Feed Materials Production Center, Fernald, Ohio, $55,111,000.

Project 86-D-148, special isotope separation project, Idaho Falls, Idaho, $40,000,000.

Project 86-D-149, productivity retention program, Phases I, II, III, IV, and V, various locations, $81,780,000.

Project 86-D-152, reactor electrical distribution system, Savannah River, South Carolina, $3,164,000.

Project 86-D-156, plantwide safeguards systems, Savannah River, South Carolina, $6,181,000.

Project 85-D-139, fuel processing restoration, Idaho Fuels Processing Facility, Idaho National Engineering Laboratory, Idaho, $75,000,000.

(3) For defense waste and environmental restoration:

Project 90-D-170, general plant projects, various locations, $29,036,000.

Project 90-D-171, laboratory ventilation and electrical system upgrade, Richland, Washington, $1,100,000.

Project 90-D-172, aging waste transfer lines, Richland, Washington, $1,300,000.

Project 90-D-173, B plant canyon crane replacement, Richland, Washington, $1,500,000.

Project 90-D-174, decontamination laundry facility, Richland, Washington, $2,800,000.

Project 90-D-175, landlord program safety compliance-I, Richland, Washington, $4,200,000.

Project 90-D-176, transuranic (TRU) waste facility, Savannah River, South Carolina, $3,100,000.

Project 90-D-177, RWMC transuranic (TRU) waste treatment and storage facility, Idaho National Engineering Laboratory, Idaho Falls, Idaho, $5,000,000.

Project 90-D-178, TSA retrieval containment building, Idaho National Engineering Laboratory, Idaho Falls, Idaho, $6,000,000.

Project 89-D-171, Idaho National Engineering Laboratory road renovation, Idaho, $7,400,000.

Project 89-D-172, Hanford environmental compliance, Richland, Washington, $27,600,000.

Project 89-D-173, tank farm ventilation upgrade, Richland, Washington, $15,400,000.

Project 89-D-174, replacement high level waste evaporator, Savannah River, South Carolina, $9,360,000.

Project 89-D-175, hazardous waste/mixed waste disposal facility, Savannah River, South Carolina, $6,440,000.

Project 88-D-173, Hanford waste vitrification plant, Richland, Washington, $29,100,000.

Project 87-D-173, 242-A evaporator crystallizer upgrade, Richland, Washington, $700,000.

Project 87-D-181, diversion box and pump pit containment buildings, Savannah River, South Carolina, $2,790,000.

Project 83-D-148, nonradioactive hazardous waste management, Savannah River, South Carolina, $14,140,000.

(4) For verification and control technology:

Project 90-D-186, center for national security and arms control, Sandia National Laboratories, Albuquerque, New Mexico, $1,000,000.

(5) For new production reactor:

Project 88-D-154, new production reactor capacity, various locations, $100,000,000.

(6) For naval reactors development:

Project 90-N-101, general plant projects, various locations, $8,500,000.

Project 90-N-102, expended core facility dry cell project, Naval Reactors Facility, Idaho, $3,600,000.

Project 90-N-103, advanced test reactor off-gas treatment system, Idaho National Engineering Laboratory, Idaho, $200,000.

Project 90-N-104, facilities renovation, Knolls Atomic Power Laboratory, Niskayuna, New York, $3,900,000.

Project 89-N-102, heat transfer test facility, Knolls Atomic Power Laboratory, Niskayuna, New York, $6,500,000.

Project 89-N-103, advanced test reactor modifications, Test Reactor Area, Idaho National Engineering Laboratory, Idaho, $3,100,000.

Project 89-N-104, power system upgrade, Naval Reactors Facility, Idaho, $6,400,000.

Project 88-N-102, expended core facility receiving station, Naval Reactors Facility, Idaho, $3,000,000.

(7) For capital equipment not related to construction:

(A) For weapons activities, $284,370,000, including $8,740,000 for the defense inertial confinement fusion program.

(B) For materials production, $104,425,000.

(C) For defense waste and environmental restoration, $50,126,000.

(D) For verification and control technology, $9,732,000.

(E) For nuclear safeguards and security, $4,967,000.

(F) For naval reactors development, $54,000,000.

SEC. 3103. FUNDING LIMITATIONS

(a) PROGRAMS, PROJECTS, AND ACTIVITIES OF THE DEPARTMENT OF ENERGY RELATING TO THE STRATEGIC DEFENSE INITIATIVE.—Of the funds appropriated to the Department of Energy for fiscal year 1990 for operating expenses and plant and capital equipment, not more than $220,000,000 may be obligated or expended for programs, projects, and activities of the Department of Energy relating to the Strategic Defense Initiative.

(b) INERTIAL CONFINEMENT FUSION.—Of the funds authorized to be appropriated to the Department of Energy for fiscal year 1990 for operating expenses and plant and capital equipment, $173,940,000 shall be available for the defense inertial confinement fusion program.

(c) SPECIAL ISOTOPE SEPARATION PROJECT.—(1) The funds authorized for Project 86-D-148, special isotope separation project, Idaho Falls, Idaho, may not be used for construction or procurement of long-lead materials or equipment.

(2) The Secretary of Energy may transfer not more than $10,000,000 of the funds authorized for Project 86-D-148 to the funds authorized for Operating Expenses for activities in support of such project.

(3) No funds may be obligated for site preparation for Project 86-D-148 until the Secretary of Energy has certified to the Committees on Armed Services of the Senate and House of Representatives that obligation of funds for site preparation is—

(A) essential for the national security of the United States; and

(B) necessary to meet plutonium requirements.

(4) No additional funds may be obligated for construction, including site preparation, in connection with such project until the Secretary has certified to the Committees on Armed Services of the Senate and the House of Representatives that the technology for the special isotope separation project has been proven and that all environmental requirements provided in applicable laws have been met.

(d) LANCE WARHEAD FOLLOW-ON.—(1) Except as provided in paragraph (2), funds appropriated pursuant to the authorization contained in section 3101 may not be obligated for advanced develop-

ment for any warhead for the design or development of a new warhead for the Follow-on To Lance (FOTL) missile.

(2) Funds referred to in paragraph (1) may be obligated for advanced development for a warhead for the FOTL missile only if the Secretary of Energy certifies to the Committees on Armed Services of the Senate and House of Representatives that—

(A) such warhead is a cost effective use of the W84 warhead, the W85 warhead, or both the W84 and W85 warheads, as the case may be; or

(B) neither the W84 or W85 warhead is compatible with the FOTL missile.

(3) Any certification submitted pursuant to paragraph (2) shall be accompanied by a detailed explanation of the reasons for such certification.

(4) For purposes of this paragraph, the term "advance development" with respect to the FOTL missile means work under phase 1 or work under phase 2, other than design work under phase 2A.

PART B—RECURRING GENERAL PROVISIONS

SEC. 3121. REPROGRAMMING

(a) NOTICE TO CONGRESS.—(1) Except as otherwise provided in this title—

(A) no amount appropriated pursuant to this title may be used for any program in excess of the lesser of—

(i) 105 percent of the amount authorized for that program by this title; or

(ii) $10,000,000 more than the amount authorized for that program by this title; and

(B) no amount appropriated pursuant to this title may be used for any program which has not been presented to, or requested of, the Congress.

(2) An action described in paragraph (1) may be taken after a period of 30 calendar days (not including any day on which either House of Congress is not in session because of adjournment of more than three calendar days to a day certain) has passed after receipt by the Committees on Armed Services and the Committees on Appropriations of the Senate and House of Representatives of notice from the Secretary of Energy containing a full and complete statement of the action proposed to be taken and the facts and circumstances relied upon in support of such proposed action.

(b) LIMITATION ON AMOUNT OBLIGATED.—In no event may the total amount of funds obligated pursuant to this title exceed the total amount authorized to be appropriated by this title.

SEC. 3122. LIMITS ON GENERAL PLANT PROJECTS

(a) IN GENERAL.—The Secretary may carry out any construction project under the general plant projects provisions authorized by this title if the total estimated cost of the construction project does not exceed $1,200,000.

(b) REPORT TO CONGRESS.—If at any time during the construction of any general plant project authorized by this title, the estimated cost of the project is revised because of unforeseen cost variations and the revised cost of the project exceeds $1,200,000, the Secretary shall immediately furnish a complete report to the Committees on Armed Services and the Committees on Appropriations of the

Senate and House of Representatives explaining the reasons for the cost variation.

SEC. 3123. LIMITS ON CONSTRUCTION PROJECTS

(a) IN GENERAL.—(1) Except as provided in paragraph (2), construction on a construction project may not be started or additional obligations incurred in connection with the project above the total estimated cost, whenever the current estimated cost of the construction project, which is authorized by section 3102 of this title, or which is in support of national security programs of the Department of Energy and was authorized by any previous Act, exceeds by more than 25 percent the higher of—

(A) the amount authorized for the project; or

(B) the amount of the total estimated cost for the project as shown in the most recent budget justification data submitted to Congress.

(2) An action described in paragraph (1) may be taken after a period of 30 calendar days (not including any day on which either House of Congress is not in session because of adjournment of more than three calendar days to a day certain) has passed after receipt by the Committees on Armed Services and the Committees on Appropriations of the Senate and House of Representatives of notice from the Secretary of Energy containing a full and complete statement of the action proposed to be taken and the facts and circumstances relied upon in support of such proposed action.

(b) EXCEPTION.—Subsection (a) shall not apply to any construction project which has a current estimated cost of less than $5,000,000.

SEC. 3124. FUND TRANSFER AUTHORITY

(a) IN GENERAL.—Funds appropriated pursuant to this title may be transferred to other agencies of the Government for the performance of the work for which the funds were appropriated, and funds so transferred may be merged with the appropriations of the agency to which the funds are transferred.

(b) SPECIFIC TRANSFER.—The Secretary of Defense may transfer to the Secretary of Energy not more than $100,000,000 of the funds appropriated for fiscal year 1990 to the Department of Defense for research, development, test, and evaluation for the Defense Agencies for the performance of work on the Strategic Defense Initiative. Funds so transferred—

(1) may be used only for research, development, and testing for nuclear directed energy weapons, including plant and capital equipment related thereto;

(2) shall be merged with the appropriations of the Department of Energy; and

(3) may not be included in calculating the amount of funds obligated or expended for purposes of the funding limitation in section 3103(a).

SEC. 3125. AUTHORITY FOR CONSTRUCTION DESIGN

(a) IN GENERAL.—(1) Within the amounts authorized by this title for plant engineering and design, the Secretary of Energy may carry out advance planning and construction designs (including architectural and engineering services) in connection with any proposed construction project if the total estimated cost for such planning and design does not exceed $2,000,000.

(2) In any case in which the total estimated cost for such planning and design exceeds $300,000, the Secretary shall notify the Committees on Armed Services and the Committees on Appropriations of the Senate and House of Representatives in writing of the details of such project at least 30 days before any funds are obligated for design services for such project.

(b) SPECIFIC AUTHORITY REQUIRED.—In any case in which the total estimated cost for advance planning and construction design in connection with any construction project exceeds $2,000,000, funds for such design must be specifically authorized by law.

SEC. 3126. AUTHORITY FOR EMERGENCY CONSTRUCTION DESIGN

In addition to the advance planning and construction design authorized by section 3102, the Secretary of Energy may perform planning and design utilizing available funds for any Department of Energy defense activity construction project whenever the Secretary determines that the design must proceed expeditiously in order to meet the needs of national defense or to protect property or human life.

SEC. 3127. FUNDS AVAILABLE FOR ALL NATIONAL SECURITY PROGRAMS OF THE DEPARTMENT OF ENERGY

Subject to the provisions of appropriation Acts and section 3121, amounts appropriated pursuant to this title for management and support activities and for general plant projects are available for use, when necessary, in connection with all national security programs of the Department of Energy.

SEC. 3128. AVAILABILITY OF FUNDS

When so specified in an appropriation Act, amounts appropriated for operating expenses or for plant and capital equipment may remain available until expended.

PART C—TECHNOLOGY TRANSFER

National Competitiveness Technology Transfer Act of 1989. 15 USC 3701 note.

SEC. 3131. SHORT TITLE

This part may be cited as the "National Competitiveness Technology Transfer Act of 1989".

15 USC 3701 note.

SEC. 3132. FINDINGS AND PURPOSES

(a) FINDINGS.—Congress finds that—

(1) technology advancement is a key component in the growth of the United States industrial economy, and a strong industrial base is an essential element of the security of this country;

(2) there is a need to enhance United States competitiveness in both domestic and international markets;

(3) innovation and the rapid application of commercially valuable technology are assuming a more significant role in near-term marketplace success;

(4) the Federal laboratories and other facilities have outstanding capabilities in a variety of advanced technologies and skilled scientists, engineers, and technicians who could contribute substantially to the posture of United States industry in international competition;

(5) improved opportunities for cooperative research and development agreements between contractor-managers of certain Federal laboratories and the private sector in the United States,

consistent with the program missions at those facilities, particularly the national security functions involved in atomic energy defense activities, would contribute to our national well-being; and

(6) more effective cooperation between those laboratories and the private sector in the United States is required to provide speed and certainty in the technology transfer process.

(b) PURPOSES.—The purposes of this part are to—

(1) enhance United States national security by promoting technology transfer between Government-owned, contractor-operated laboratories and the private sector in the United States; and

(2) enhance collaboration between universities, the private sector, and Government-owned, contractor-operated laboratories in order to foster the development of technologies in areas of significant economic potential.

SEC. 3133. AUTHORITY TO ENTER INTO COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENTS

(a) TECHNOLOGY TRANSFER ACTIVITIES.—Section 12 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710a) is amended—

(1) in subsection (a)—

(A) by inserting ", and, to the extent provided in an agency-approved joint work statement, the director of any of its Government-owned, contractor-operated laboratories" after "Government-operated Federal laboratories";

(B) by striking "for Government-owned" and inserting in lieu thereof "(in the case of a Government-owned, contractor-operated laboratory, subject to subsection (c) of this section) for" in paragraph (2); and

(C) by striking "of Federal employees" in paragraph (2);

(2) in subsection (b)—

(A) by inserting ", and, to the extent provided in an agency-approved joint work statement, a Government-owned, contractor-operated laboratory," after "Government-operated Federal laboratory";

(B) by striking "a Federal" in paragraph (2) and inserting in lieu thereof "a laboratory"; and

(C) by inserting after paragraph (5) the following:

"A Government-owned, contractor-operated laboratory that enters into a cooperative research and development agreement under subsection (a)(1) may use or obligate royalties or other income accruing to such laboratory under such agreement with respect to any invention only (i) for payments to inventors; (ii) for the purposes described in section 14(a)(1)(B) (i), (ii), and (iv); and (iii) for scientific research and development consistent with the research and development mission and objectives of the laboratory.";

(3) in subsection (c)(3)(A), by striking "employee standards of conduct" and inserting in lieu thereof "standards of conduct for its employees";

(4) in subsection (c)(5)(A), by inserting "presented by the director of a Government-operated laboratory" after "any such agreement";

(5) in subsection (c)(5)(B), by inserting "by the director of a Government-operated laboratory" after "an agreement presented";

(6) in subsection (c)(5), by adding at the end the following new subparagraph:

"(C)(i) Any agency which has contracted with a non-Federal entity to operate a laboratory shall review and approve, request specific modifications to, or disapprove a joint work statement that is submitted by the director of such laboratory within 90 days after such submission. In any case where an agency has requested specific modifications to a joint work statement, the agency shall approve or disapprove any resubmission of such joint work statement within 30 days after such resubmission, or 90 days after the original submission, whichever occurs later. No agreement may be entered into by a Government-owned, contractor-operated laboratory under this section before both approval of the agreement under clause (iv) and approval under this clause of a joint work statement.

"(ii) In any case in which an agency which has contracted with a non-Federal entity to operate a laboratory disapproves or requests the modification of a joint work statement submitted under this section, the agency shall promptly transmit a written explanation of such disapproval or modification to the director of the laboratory concerned.

"(iii) Any agency which has contracted with a non-Federal entity to operate a laboratory or laboratories shall develop and provide to such laboratory or laboratories one or more model cooperative research and development agreements, for the purposes of standardizing practices and procedures, resolving common legal issues, and enabling review of cooperative research and development agreements to be carried out in a routine and prompt manner.

"(iv) An agency which has contracted with a non-Federal entity to operate a laboratory shall review each agreement under this section. Within 30 days after the presentation, by the director of the laboratory, of such agreement, the agency shall, on the basis of such review, approve or request specific modification to such agreement. Such agreement shall not take effect before approval under this clause.

Reports.

"(v) If an agency fails to complete a review under clause (iv) within the 30-day period specified therein, the agency shall submit to the Congress, within 10 days after the end of that 30-day period, a report on the reasons for such failure. The agency shall, at the end of each successive 30-day period thereafter during which such failure continues, submit to the Congress another report on the reasons for the continuing failure. Nothing in this clause relieves the agency of the requirement to complete a review under clause (iv).

"(vi) In any case in which an agency which has contracted with a non-Federal entity to operate a laboratory requests the modification of an agreement presented under this section, the agency shall promptly transmit a written explanation of such modification to the director of the laboratory concerned.";

(7) in subsection (c), by adding at the end the following new paragraph:

Classified information.

"(7)(A) No trade secrets or commercial or financial information that is privileged or confidential, under the meaning of section 552(b)(4) of title 5, United States Code, which is obtained in the conduct of research or as a result of activities under this Act from a non-Federal party participating in a cooperative research and development agreement shall be disclosed.

"(B) The director, or in the case of a contractor-operated laboratory, the agency, for a period of up to 5 years after development of

information that results from research and development activities conducted under this Act and that would be a trade secret or commercial or financial information that is privileged or confidential if the information had been obtained from a non-Federal party participating in a cooperative research and development agreement, may provide appropriate protections against the dissemination of such information, including exemption from subchapter II of chapter 5 of title 5, United States Code."; and

(8) in subsection (d)—

(A) by striking "and" at the end of paragraph (1);

(B) by amending paragraph (2) to read as follows:

"(2) the term 'laboratory' means—

"(A) a facility or group of facilities owned, leased, or otherwise used by a Federal agency, a substantial purpose of which is the performance of research, development, or engineering by employees of the Federal Government;

"(B) a group of Government-owned, contractor-operated facilities under a common contract, when a substantial purpose of the contract is the performance of research and development for the Federal Government; and

"(C) a Government-owned, contractor-operated facility that is not under a common contract described in subparagraph (B), and the primary purpose of which is the performance of research and development for the Federal Government,

but such term does not include any facility covered by Executive Order No. 12344, dated February 1, 1982, pertaining to the Naval nuclear propulsion program; and"; and

(C) by adding at the end the following new paragraph:

"(3) the term 'joint work statement' means a proposal prepared for a Federal agency by the director of a Government-owned, contractor-operated laboratory describing the purpose and scope of a proposed cooperative research and development agreement, and assigning rights and responsibilities among the agency, the laboratory, and any other party or parties to the proposed agreement.".

(b) PRINCIPLES.—Section 12 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710a) is amended by adding at the end the following new subsection:

"(g) PRINCIPLES.—In implementing this section, each agency which has contracted with a non-Federal entity to operate a laboratory shall be guided by the following principles:

"(1) The implementation shall advance program missions at the laboratory, including any national security mission.

"(2) Classified information and unclassified sensitive information protected by law, regulation, or Executive order shall be appropriately safeguarded.".

(c) TECHNICAL AMENDMENTS.—Section 14 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710c) is amended—

(1) in subsection (a)(1), by inserting "by Government-operated Federal laboratories" after "entered into"; and by striking "11" and inserting in lieu thereof "12";

(2) in subsection (a)(1)(B)(ii), by inserting ", including payments to inventors and developers of sensitive or classified technology, regardless of whether the technology has commercial applications" after "that laboratory"; and

(3) in subsection (a)(1)(B)(iv), by striking "Government-operated".

15 USC 3710a note.

(d) CONTRACT PROVISIONS.—(1) Not later than 150 days after the date of enactment of this Act, each agency which has contracted with a non-Federal entity to operate a Government-owned laboratory shall propose for inclusion in that laboratory's operating contract, to the extent not already included, appropriate contract provisions that—

(A) establish technology transfer, including cooperative research and development agreements, as a mission for the laboratory under section 11(a)(1) of the Stevenson-Wydler Technology Innovation Act of 1980;

(B) describe the respective obligations and responsibilities of the agency and the laboratory with respect to this part and section 12 of the Stevenson-Wydler Technology Innovation Act of 1980;

(C) require that, except as provided in paragraph (2), no employee of the laboratory shall have a substantial role (including an advisory role) in the preparation, negotiation, or approval of a cooperative research and development agreement if, to such employee's knowledge—

(i) such employee, or the spouse, child, parent, sibling, or partner of such employee, or an organization (other than the laboratory) in which such employee serves as an officer, director, trustee, partner, or employee—

(I) holds a financial interest in any entity, other than the laboratory, that has a substantial interest in the preparation, negotiation, or approval of the cooperative research and development agreement; or

(II) receives a gift or gratuity from any entity, other than the laboratory, that has a substantial interest in the preparation, negotiation, or approval of the cooperative research and development agreement; or

(ii) a financial interest in any entity, other than the laboratory, that has a substantial interest in the preparation, negotiation, or approval of the cooperative research and development agreement, is held by any person or organization with whom such employee is negotiating or has any arrangement concerning prospective employment;

(D) require that each employee of the laboratory who negotiates or approves a cooperative research and development agreement shall certify to the agency that the circumstances described in subparagraph (C)(i) and (ii) do not apply to such employee;

(E) require the laboratory to widely disseminate information on opportunities to participate with the laboratory in technology transfer, including cooperative research and development agreements; and

(F) provides for an accounting of all royalty or other income received under cooperative research and development agreements.

(2) The requirements described in paragraph (1)(C) and (D) shall not apply in a case where the negotiating or approving employee advises the agency that reviewed the applicable joint work statement under section 12(c)(5)(C)(i) of the Stevenson-Wydler Technology Innovation Act of 1980 in advance of the matter in which he is to participate and the nature of any financial interest described in

paragraph (1)(C), and where the agency employee determines that such financial interest is not so substantial as to be considered likely to affect the integrity of the laboratory employee's service in that matter.

(3) Not later than 180 days after the date of enactment of this Act, each agency which has contracted with a non-Federal entity to operate a Government-owned laboratory shall submit a report to the Congress which includes a copy of each contract provision amended pursuant to this subsection. Reports.

(4) No Government-owned, contractor-operated laboratory may enter into a cooperative research and development agreement under section 12 of the Stevenson-Wydler Technology Innovation Act of 1980 unless—

(A) that laboratory's operating contract contains the provisions described in paragraph (1)(A) through (F); or

(B) such laboratory agrees in a separate writing to be bound by the provisions described in paragraph (1)(A) through (F).

(5) Any contract for a Government-owned, contractor-operated laboratory entered into after the expiration of 150 days after the date of enactment of this Act shall contain the provisions described in paragraph (1)(A) through (F).

(e) TECHNOLOGY TRANSFER FUNDING AND REPORT.—Section 11(b) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710(b)) is amended—

(1) by striking "after September 30, 1981,";

(2) by striking "not less than 0.5 percent of the agency's research and development budget" and inserting in lieu thereof "sufficient funding, either as a separate line item or from the agency's research and development budget,";

(3) by striking "The agency head may waive" and all that follows through "waives such requirement, the" and inserting in lieu thereof "The"; and

(4) by striking "reasons for the waiver and alternate plans for conducting the technology transfer function at the agency." and inserting in lieu thereof "agency's technology transfer program for the preceding year and the agency's plans for conducting its technology transfer function for the upcoming year, including plans for securing intellectual property rights in laboratory innovations with commercial promise and plans for managing such innovations so as to benefit the competitiveness of United States industry.".

PART D—ENVIRONMENT, SAFETY, AND MANAGEMENT

SEC. 3141. DEFENSE WASTE CLEANUP TECHNOLOGY PROGRAM

42 USC 7274a.

(a) ESTABLISHMENT OF PROGRAM.—The Secretary of Energy shall establish and carry out a program of research for the development of technologies useful for (1) the reduction of environmental hazards and contamination resulting from defense waste, and (2) environmental restoration of inactive defense waste disposal sites. Research and development.

(b) COORDINATION OF RESEARCH ACTIVITIES.—(1) In order to ensure nonduplication of research activities by the Department of Energy regarding technologies referred to in subsection (a), the Secretary shall coordinate the research activities of the Department of Energy relating to the development of such technologies with the research activities of the Environmental Protection Agency, the Department

of Defense, and other appropriate Federal agencies relating to the same matter.

(2) To the extent that funds are otherwise available for obligation, the Secretary may enter into cooperative agreements with the Environmental Protection Agency, the Department of Defense, and other appropriate Federal agencies for the conduct of research for the development of technologies referred to in subsection (a).

(c) REPORT.—(1) The Secretary shall submit to Congress not later than April 1 each year a report on the research activities of the Department of Energy for the development of technologies referred to in subsection (a). The report shall cover such activities for the fiscal year preceding the fiscal year in which the report is submitted. The Secretary shall include in the report the following:

(A) A description and assessment of each research program being carried out by or for the Department of Energy and the identification of the individual laboratory, contractor, or institution of higher education responsible for the research program.

(B) An assessment of the extent to which (i) there are practical applications of the technologies being researched, and (ii) such technologies will likely facilitate compliance by the Department of Energy with applicable environmental laws and regulations.

(C) An accounting of the funds allocated to each research program and to each laboratory, contractor, or institution of higher education carrying out the research program.

(D) An assessment of the research projects that have been coordinated with the Environmental Protection Agency, the Department of Defense, and other appropriate Federal agencies pursuant to subsection (b).

(2) The first report required by paragraph (1) shall be submitted not later than April 1, 1990.

(d) DEFINITIONS.—As used in this section:

(1) The term "defense waste" means waste, including radioactive waste, resulting primarily from atomic energy defense activities of the Department of Energy.

(2) The term "inactive defense waste disposal site" means any site (including any facility) under the control or jurisdiction of the Secretary of Energy which is used for the disposal of defense waste and is closed to the disposal of additional defense waste, including any site that is subject to decontamination and decommissioning.

42 USC 7236.

SEC. 3142. EXECUTIVE MANAGEMENT TRAINING IN THE DEPARTMENT OF ENERGY

(a) ESTABLISHMENT OF TRAINING PROGRAM.—The Secretary of Energy shall establish and implement a management training program for personnel of the Department of Energy involved in the management of atomic energy defense activities.

(b) TRAINING PROVISIONS.—The training program shall at a minimum include instruction in the following areas:

(1) Department of Energy policy and procedures for management and operation of atomic energy defense facilities.

(2) Methods of evaluating technical performance.

(3) Federal and State environmental laws and requirements for compliance with such environmental laws, including timely compliance with reporting requirements in such laws.

(4) The establishment of program milestones and methods to evaluate success in meeting such milestones.

(5) Methods for conducting long-range technical and budget planning.

(6) Procedures for reviewing and applying innovative technology to environmental restoration and defense waste management.

SEC. 3143. MAJOR DEPARTMENT OF ENERGY NATIONAL SECURITY PROGRAMS 42 USC 7271a.

(a) MAJOR PROGRAM DEFINED.—In this section, the term "major Department of Energy national security program" means a research and development program (which may include construction and production activities), a construction program, or a production program—

(1) that is designated by the Secretary of Energy as a major Department of Energy national security program; or

(2) that is estimated by the Secretary of Energy to cost more than $500,000,000 (based on fiscal year 1989 constant dollars).

(b) REQUIRED REPORTS.—(1) Except as provided in paragraph (3), the Secretary of Energy shall submit to the Committees on Armed Services and the Committees on Appropriations of the Senate and House of Representatives at the end of each calendar-year quarter a report on each major Department of Energy national security program.

(2) Each such report shall include, at a minimum, the following information:

(A) A description of the program, its purpose, and its relationship to the mission of the national security program of the Department of Energy.

(B) The program schedule, including estimated annual costs.

(C) A comparison of the current schedule and cost estimates with previous schedule and cost estimates, and an explanation of changes.

(3) A report under this section need not be submitted for the first, second, or third calendar-year quarter if the comparison between current schedule and cost estimates and schedule and cost estimates contained in the last submitted report shows that there has been—

(A) less than a 5 percent change in total program cost; and

(B) less than a 90-day delay in any significant schedule item of the program.

(c) SUBMISSION OF REPORT.—Each report under this section shall be submitted not later than 30 days after the end of each calendar-year quarter. The first report shall cover the fourth quarter of 1989 and shall be submitted not later than January 30, 1990.

(d) IDENTIFICATION OF PROGRAMS.—Not later than 60 days after the date of the enactment of this Act, the Secretary of Energy shall submit a report to the Committees on Armed Services and the Committees on Appropriations of the Senate and House of Representatives that identifies all programs of the Department of Energy that are major Department of Energy national security programs, as defined in subsection (a). Reports.

SEC. 3144. FIVE-YEAR BUDGET PLAN REQUIREMENT 42 USC 7271b.

(a) PLAN REQUIREMENT.—The Secretary of Energy each year shall prepare a five-year budget plan for the national security programs of the Department of Energy. The plan shall contain the estimated

expenditures and proposed appropriations necessary to support the programs, projects, and activities of the national security programs and shall be at a level of detail comparable to that contained in the budget submitted by the President to Congress under section 1105 of title 31, United States Code.

(b) SUBMISSION OF PLAN.—The Secretary shall submit to the Committees on Armed Services and the Committees on Appropriations of the Senate and House of Representatives the plan required under subsection (a) at the same time as the President submits to Congress the budget pursuant to section 1105 of title 31, United States Code.

PART E—MISCELLANEOUS PROVISIONS

42 USC 7256b.

SEC. 3151. PROHIBITION AND REPORT ON BONUSES TO CONTRACTORS OPERATING DEFENSE NUCLEAR FACILITIES

(a) PROHIBITION.—The Secretary of Energy may not provide any bonuses, award fees, or other form of performance- or production-based awards to a contractor operating a Department of Energy defense nuclear facility unless, in evaluating the performance or production under the contract, the Secretary considers the contractor's compliance with all applicable environmental, safety, and health statutes, regulations, and practices for determining both the size of, and the contractor's qualification for, such bonus, award fee, or other award. The prohibition in this subsection applies with respect to contracts entered into, or contract options exercised, after the date of the enactment of this Act.

(b) REPORT ON ROCKY FLATS BONUSES.—The Secretary of Energy shall investigate the payment, from 1981 to 1988, of production bonuses to Rockwell International, the contractor operating the Rocky Flats Plant (Golden, Colorado), for purposes of determining whether the payment of such bonuses was made under fraudulent circumstances. Not later than 6 months after the date of the enactment of this Act, the Secretary shall submit to the Committees on Armed Services of the Senate and House of Representatives a report on the results of that investigation, including the Secretary's conclusions and recommendations.

(c) DEFINITION.—In this section, the term "Department of Energy defense nuclear facility" has the meaning given such term by section 318 of the Atomic Energy Act of 1954 (42 U.S.C. 2286g).

(d) REGULATIONS.—The Secretary of Energy shall promulgate regulations to implement subsection (a) not later than 90 days after the date of the enactment of this Act.

SEC. 3152. PREFERENCE FOR ROCKY FLATS WORKERS

In any contract awarded by the Secretary of Energy to carry out any cleanup, decontamination, or decommissioning of the Rocky Flats Plant (Golden, Colorado), the Secretary of Energy shall require the contractor to give first preference in hiring employees to those employees who worked at the Rocky Flats Plant before it was closed and who are qualified to carry out the duties of the positions, as determined by the contractor.

SEC. 3153. AUTHORIZATION AND FUNDING FOR ROCKY FLATS AGREEMENT

(a) AUTHORIZATION.—(1) Using funds available pursuant to subsection (b), the Secretary of Energy shall make such payments as may be necessary—

(A) to carry out the agreement entered into on June 16, 1989, between the Department of Energy and the State of Colorado with respect to the Rocky Flats Plant; and Colorado.

(B) to enable the State of Colorado to provide such assistance to the Colorado communities described in paragraph (2) as is necessary to ensure, through testing and related activities, that the drinking water of those communities is safe, pure, and clean. Water.

(2) The Colorado communities referred to in paragraph (1)(B) are those communities whose water supply flows through, runs off, or is otherwise affected by air or water emissions of, the Rocky Flats Plant.

(b) FUNDING.—Of the funds appropriated to the Department of Energy for fiscal year 1990 pursuant to the authorization in this title for environmental restoration and management of defense waste, not more than $3,435,000 may be obligated to carry out the agreement referred to in subsection (a)(1)(A) and to provide for testing and related activities authorized under subsection (a)(2).

SEC. 3154. MORATORIUM ON INCINERATION OF RADIOACTIVE WASTE AT LOS ALAMOS NATIONAL LABORATORY

The Los Alamos National Laboratory is prohibited from incinerating radioactive waste, including any waste containing radioactive constituents, until the earlier of the following dates:

(1) August 1, 1990.

(2) The date on which the State of New Mexico adopts regulations on emissions resulting from the incineration of radioactive waste.

SEC. 3155. PRODUCTION OF THE 155-MILLIMETER ARTILLERY-FIRED, ATOMIC PROJECTILE

Section 1635 of the Department of Defense Authorization Act, 1985 (Public Law 98-525; 98 Stat. 2649), is amended—

(1) in subsection (b), by striking out the period at the end of paragraph (2) and inserting in lieu thereof ", not including amounts spent exclusively to ensure the safety and security of the warheads."; and

(2) by adding at the end the following new subsection:

"(d) The Secretary of Energy and the Secretary of Defense shall jointly submit to the Committees on Armed Services of the Senate and the House of Representatives a report on the implementation of this section and shall include in such report the number of projectiles referred to in subsection (b) that have been produced and the total amount obligated for the production of such projectiles. Such report shall be submitted at the same time that the President submits the budget for fiscal year 1991 to Congress pursuant to section 1105 of title 31, United States Code.". Reports.

SEC. 3156. REPORTS IN CONNECTION WITH PERMANENT CLOSURES OF DEPARTMENT OF ENERGY DEFENSE NUCLEAR FACILITIES 42 USC 7274b.

(a) TRAINING AND JOB PLACEMENT SERVICES PLAN.—Not later than 120 days before a Department of Energy defense nuclear facility (as

defined in section 318 of the Atomic Energy Act of 1954 (42 U.S.C. 2286(g)) permanently ceases all production and processing operations, the Secretary of Energy must submit to the Committees on Armed Services of the Senate and the House of Representatives a report containing a discussion of the training and job placement services needed to enable the employees at such facility to obtain employment in the environmental remediation and cleanup activities at such facility. The discussion shall include the actions that should be taken by the contractor operating and managing such facility to provide retraining and job placement services to employees of such contractor.

(b) CLOSURE REPORT.—Upon the permanent cessation of production operations at a Department of Energy defense nuclear facility, the Secretary of Energy shall submit to Congress a report containing—

(1) a complete survey of environmental problems at the facility;

(2) budget quality data indicating the cost of environmental restoration and other remediation and cleanup efforts at the facility; and

(3) a discussion of the proposed cleanup schedule.

SEC. 3157. DEFENSE PROGRAM MISSIONS

Section 91 a. of the Atomic Energy Act of 1954 (42 U.S.C. 2121(a)) is amended—

(1) by striking out "and" at the end of clause (1);

(2) by striking out the period at the end of clause (2) and inserting in lieu thereof a semicolon; and

(3) by adding at the end the following new clauses:

"(3) provide for safe storage, processing, transportation, and disposal of hazardous waste (including radioactive waste) resulting from nuclear materials production, weapons production and surveillance programs, and naval nuclear propulsion programs;

"(4) carry out research on and development of technologies needed for the effective negotiation and verification of international agreements on control of special nuclear materials and nuclear weapons; and

"(5) under applicable law (other than this paragraph) and consistent with other missions of the Department of Energy, make transfers of federally owned or originated technology to State and local governments, private industry, and universities or other nonprofit organizations so that the prospects for commercialization of such technology are enhanced.".

TITLE XXXII—DEFENSE NUCLEAR FACILITIES SAFETY BOARD AUTHORIZATION

SEC. 3201. AUTHORIZATION

There are authorized to be appropriated for fiscal year 1990 $7,000,000 for the establishment and operation of the Defense Nuclear Facilities Safety Board under chapter 21 of the Atomic Energy Act of 1954 (42 U.S.C. 2286 et seq.).

TITLE XXXIII—NATIONAL DEFENSE STOCKPILE

PART A—CHANGES IN STOCKPILE AMOUNTS

SEC. 3301. CHANGES IN STOCKPILE REQUIREMENTS

50 USC 98b note.

Pursuant to section 3(c)(4) of the Strategic and Critical Materials Stock Piling Act (50 U.S.C. 98b(c)(4)), the National Defense Stockpile Manager may revise quantities of materials to be stockpiled under that Act in accordance with the following table:

Material	Current quantity	Revised quantity
Aluminum oxide, abrasive grain group	638,000 short tons (contained)	374,000 short tons (contained)
Antimony	36,000 short tons	88,500 short tons
Asbestos, amosite	17,000 short tons	0 short tons
Bauxite, refractory	1,400,000 long calcined tons	1,240,000 long calcined tons
Bismuth	2,200,000 pounds	1,060,000 pounds
Chromite, refractory grade ore	850,000 short dry tons	695,000 short dry tons
Columbium group	4,850,000 pounds (contained)	12,520,000 pounds (contained)
Diamond, industrial group	29,730,000 carats	7,730,000 carats
Fluorspar, acid grade	1,400,000 short dry tons	900,000 short dry tons
Fluorspar, metallurgical grade	1,700,000 short dry tons	310,000 short dry tons
Graphite, natural, malagasy, crystalline	20,000 short tons	14,200 short tons
Graphite, natural, other than Ceylon and Malagasy	2,800 short tons	1,930 short tons
Manganese, battery grade group	87,000 short dry tons	50,000 short dry tons
Mica, muscovite block, stained and better	6,200,000 pounds	2,500,000 pounds
Natural insulation fibers	1,500,000 pounds	0 pounds
Platinum group metals, iridium	98,000 troy ounces	86,000 troy ounces
Platinum group metals, palladium	3,000,000 troy ounces	2,150,000 troy ounces
Quartz crystals	600,000 pounds	240,000 pounds
Talc, steatite block and lump	28 short tons	0 short tons
Tungsten group	50,666,000 pounds (contained)	70,900,000 pounds (contained)

SEC. 3302. AUTHORIZED DISPOSALS

42 USC 98d note.

(a) AUTHORITY.—During fiscal years 1990 and 1991, the National Defense Stockpile Manager may dispose of materials in the National Defense Stockpile in accordance with this section. The value of materials disposed of may not exceed $180,000,000 during each of such fiscal years, and such disposal may be made only as specified in subsection (b).

(b) MATERIALS AUTHORIZED TO BE DISPOSED.—Any disposal under subsection (a) shall be made from quantities of materials in the National Defense Stockpile previously authorized for disposal by law or, in the case of materials in the National Defense Stockpile that

have been determined to be excess to the current requirements of the stockpile, in accordance with the following table:

Material	Quantities
Asbestos, amosite	34,000 short tons
Bismuth	255,400 pounds
Diamond, industrial, crushing bort	8,000,000 carats
Fluorspar, metallurgical grade	15,000 short dry tons
Graphite, natural, Malagasy, crystalline	3,635 short tons
Graphite, natural, other than Ceylon and Malagasy	873 short tons
Mercury	15,000 flasks
Mica, muscovite block, stained and better	10,000 pounds
Silicon carbide	690 short tons
Talc, block and lump	28 short tons
Tin	5,000 metric tons

(c) ADDITIONAL AUTHORITY.—The disposal authority provided in subsection (a) is in addition to any other disposal authority provided by law.

(d) LIMITATION ON DISPOSALS DURING FISCAL YEARS 1990 AND 1991.—The National Defense Stockpile Manager may dispose of materials under this section during each of the fiscal years 1990 and 1991 only to the extent that the total amount received (or to be received) from such disposals for each such fiscal year does not exceed the amount obligated from the National Defense Stockpile Transaction Fund during such fiscal year for the purposes authorized under section 9(b)(2) of the Strategic and Critical Materials Stock Piling Act (50 U.S.C. 98h(b)(2)).

SEC. 3303. AUTHORIZATION OF ACQUISITIONS

(a) ACQUISITIONS.—During each of the fiscal years 1990 and 1991, the National Defense Stockpile Manager shall obligate $180,000,000 out of funds of the National Defense Stockpile Transaction Fund (subject to such limitations as may be provided in appropriations Acts) for the authorized uses of such funds under section 9(b)(2) of the Strategic and Critical Materials Stock Piling Act (50 U.S.C. 98h(b)(2)).

(b) UPGRADE PROGRAMS.—Of the amount specified in subsection (a), at least $30,000,000 shall be obligated during each of such fiscal years for programs not already required by law for upgrading stockpile materials.

President of U.S.

PART B—PROGRAMMATIC CHANGES

SEC. 3311. STRATEGIC AND CRITICAL MATERIALS DEVELOPMENT, RESEARCH, AND CONSERVATION

Section 8 of the Strategic and Critical Materials Stock Piling Act (50 U.S.C. 98g) is amended by adding at the end the following new subsections:

"(c) The President shall make scientific, technologic, and economic investigations concerning the feasibility of—

"(1) developing domestic sources of supply of materials (other than materials referred to in subsections (a) and (b)) determined pursuant to section 3(a) to be strategic and critical materials; and

"(2) developing or using alternative methods for the refining or processing of a material in the stockpile so as to convert such material into a form more suitable for use during an emergency or for storage.

"(d) The President shall encourage the conservation of domestic sources of any material determined pursuant to section 3(a) to be a strategic and critical material by making grants or awarding contracts for research regarding the development of—

"(1) substitutes for such material; or

"(2) more efficient methods of production or use of such material.".

SEC. 3312. DEVELOPMENT OF DOMESTIC SOURCES

(a) AUTHORITY OF THE PRESIDENT.—The Strategic and Critical Materials Stock Piling Act (50 U.S.C. 98 et seq.) is amended by adding at the end the following new section:

"DEVELOPMENT OF DOMESTIC SOURCES

"SEC. 15. (a) Subject to subsection (c) and to the extent the President determines such action is required for the national defense, the President shall encourage the development of domestic sources for materials determined pursuant to section 3(a) to be strategic and critical materials— President of U.S. 50 USC 98h-6.

"(1) by purchasing, or making a commitment to purchase, strategic and critical materials of domestic origin when such materials are needed for the stockpile; and

"(2) by contracting with domestic facilities, or making a commitment to contract with domestic facilities, for the processing or refining of strategic and critical materials in the stockpile when processing or refining is necessary to convert such materials into a form more suitable for storage and subsequent disposition.

"(b) A contract or commitment made under subsection (a) may not exceed five years from the date of the contract or commitment. Such purchases and commitments to purchase may be made for such quantities and on such terms and conditions, including advance payments, as the President considers to be necessary.

"(c)(1) Descriptions of proposed transactions under subsection (a) shall be included in the appropriate annual materials plan submitted to Congress under section 11(b). Changes to any such transaction, or the addition of a transaction not included in such plan, shall be made in the manner provided by section 5(a)(2).

"(2) The authority of the President to enter into obligations under this section is effective for any fiscal year only to the extent that funds in the National Defense Stockpile Transaction Fund are adequate to meet such obligations. Payments required to be as a result of obligations incurred under this section shall be made from amounts in the fund.

"(d) The authority of the President under subsection (a) includes the authority to pay—

"(1) the expenses of transporting materials; and

"(2) other incidental expenses related to carrying out such subsection.

"(e) The President shall include in the reports required under section 11(a) information with respect to activities conducted under this section.".

(b) USE OF NATIONAL DEFENSE STOCKPILE TRANSACTION FUND.—Section 9(b)(2) of such Act (50 U.S.C. 98h(b)(2)) is amended by adding at the end the following new subparagraph:

"(F) Activities authorized under section 15.".

SEC. 3313. NATIONAL DEFENSE STOCKPILE MANAGER

50 USC 98e-1, 98h-7.

(a) REDESIGNATION AND TRANSFER OF SECTION.—Section 6A of the Strategic and Critical Materials Stock Piling Act (50 U.S.C. 98e-1) is—

(1) transferred to appear after section 15 of such Act (as added by section 3312); and

(2) redesignated as section 16.

50 USC 98h-7.

(b) AUTHORITY OF THE PRESIDENT.—Such section (as redesignated and transferred) is amended—

(1) by striking out "sections 7, 8, and 13" each place it appears and inserting in lieu thereof "sections 7 and 13";

(2) by adding at the end of subsection (c) the following new sentence: "The President may not delegate functions of the President under sections 7 and 13."; and

(3) by striking out "section 6(b) or 6(d)" in subsection (d) and inserting in lieu thereof "section 6(a)(6)".

SEC. 3314. AUTHORITY TO DISPOSE OF MATERIALS IN THE STOCKPILE FOR INTERNATIONAL CONSUMPTION

Section 6 of the Strategic and Critical Materials Stock Piling Act (50 U.S.C. 98e) is amended—

(1) in subsection (b)—

(A) by striking out paragraph (3);

(B) by inserting "and" at the end of paragraph (1); and

(C) by striking out "; and" at the end of paragraph (2) and inserting in lieu thereof a period; and

(2) by striking out "paragraph (1), (2), or (3)" in subsection (d) and inserting in lieu thereof "paragraph (1) or (2)".

SEC. 3315. INFORMATION INCLUDED IN REPORTS TO CONGRESS

Section 11(a)(5) of the Strategic and Critical Materials Stock Piling Act (50 U.S.C. 98h-2(a)(5)) is amended by striking out "made from the fund" and inserting in lieu thereof "made to the fund, and obligations to be made from the fund,".

TITLE XXXIV—CIVIL DEFENSE

SEC. 3401. AUTHORIZATION OF APPROPRIATIONS

There is hereby authorized to be appropriated $151,535,000 for fiscal year 1990 for the purpose of carrying out the Federal Civil Defense Act of 1950 (50 U.S.C. App. 2251 et seq.).

TITLE XXXV—PANAMA CANAL COMMISSION

Panama Canal Commission Authorization Act, Fiscal Year 1990.

SEC. 3501. SHORT TITLE

This title may be referred to as the "Panama Canal Commission Authorization Act, Fiscal Year 1990".

SEC. 3502. AUTHORIZATION OF EXPENDITURES

(a) IN GENERAL.—The Panama Canal Commission is authorized to make such expenditures within the limits of funds and borrowing authority available to it in accordance with law, and to make such

contracts and commitments, without regard to fiscal year limitations, as may be necessary under the Panama Canal Act of 1979 (22 U.S.C. 3601 et seq.), for the operation, maintenance, and improvement of the Panama Canal for fiscal year 1990, except that not more than $52,000 for such fiscal year may be expended for official reception and representation functions, of which—

(1) not more than $12,000 may be expended for such purposes by the supervisory board for the Commission;

(2) not more than $6,000 may be expended for such purposes by the Secretary of the Commission; and

(3) not more than $34,000 may be expended for such purposes by the Administrator of the Commission.

(b) PURCHASE OF PASSENGER MOTOR VEHICLES.—Funds available to the Panama Canal Commission shall be available for the purchase of passenger motor vehicles (including large heavy-duty vehicles) used to transport personnel of the Commission across the Isthmus of Panama. Such vehicles may be purchased without regard to price limitations prescribed by law or regulation.

22 USC 3872.

SEC. 3503. NOTIFICATION REQUIREMENTS

The Panama Canal Commission shall provide written advance notification to the Committee on Merchant Marine and Fisheries of the House of Representatives and the Committee on Armed Services of the Senate regarding—

(1) any proposed change in the rates of tolls for use of the Panama Canal;

(2) any payment estimated to be due the Republic of Panama under paragraph 4(c) of Article XIII of the Panama Canal Treaty of 1977, as provided by section 1341 of the Panama Canal Act of 1979 (22 U.S.C. 3751); and

(3) the initiation of any major capital acquisition or construction project exceeding $10,000,000 unless the proposed acquisition or project was included in the budget estimates submitted to Congress for the fiscal year in which the acquisition or project is to be undertaken.

SEC. 3504. GENERAL PROVISIONS

(a) PAY INCREASES.—Funds for the Panama Canal Commission may be obligated, notwithstanding section 1341 of title 31, United States Code, to the extent necessary to permit payment of such pay increases for officers or employees as may be authorized by administrative action pursuant to law which are not in excess of statutory increases granted for the same period in corresponding rates of compensation for other employees of the United States in comparable positions.

(b) EXPENSES IN ACCORDANCE WITH LAW.—Expenditures authorized under this title may be made only in accordance with the

Panama Canal Treaties of 1977 and any law of the United States implementing those treaties.

Approved November 29, 1989.

LEGISLATIVE HISTORY—H.R. 2461 (S. 1352) (S. 1445) (S. 1446):

HOUSE REPORTS: No. 101-121 (Comm. on Armed Services) and No. 101-331 (Comm. of Conference).
SENATE REPORTS: No. 100-81 accompanying S. 1352 (Comm. on Armed Services).
CONGRESSIONAL RECORD, Vol. 135 (1989):
July 24-27, considered and passed House. S. 1352 considered in Senate.
July 31, Aug. 1, S. 1352 considered in Senate.
Aug. 2, S. 1352 and S. 1446 considered and passed Senate.
Aug. 4, H.R. 2461 considered and passed Senate, amended, in lieu of S. 1352.
Nov. 9, House agreed to conference report.
Nov. 15, Senate agreed to conference report.
WEEKLY COMPILATION OF PRESIDENTIAL DOCUMENT, Vol. 25 (1989):
Nov. 29, Presidential statement

Public Law 101-218
101st Congress

An Act

To provide Federal assistance and leadership to a program of research, development, and demonstration of renewable energy and energy efficiency technologies, and for other purposes.

Dec. 11, 1989
[S. 488]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be referred to as the "Renewable Energy and Energy Efficiency Technology Competitiveness Act of 1989".

Renewable Energy and Energy Efficiency Technology Competitiveness Act of 1989.
Business and industry.
Conservation.
Corporations.
42 USC 12001 note.
42 USC 12001.

SEC. 2. FINDING, PURPOSE, AND GENERAL AUTHORITY.

(a) FINDING.—The Congress finds that it is in the national security and economic interest of the United States to foster greater efficiency in the use of available energy supplies and greater use of renewable energy technologies.

(b) PURPOSE.—It is the purpose of this Act to authorize the Secretary of Energy, acting in accordance with authority contained in the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5901-5920) and other law applicable to the Secretary, to pursue an aggressive national program of research, development, and demonstration of renewable energy and energy efficiency technologies in order to ensure a stable and secure future energy supply by—

(1) achieving as soon as practicable cost competitive use of those technologies without need of Federal financial incentives;

(2) establishing long-term Federal research goals and multiyear funding levels;

(3) directing the Secretary to undertake initiatives to improve the ability of the private sector to commercialize in the near term renewable energy and energy efficiency technologies; and

(4) fostering collaborative research and development efforts involving the private sector through government support of a program of joint ventures.

(c) GENERAL AUTHORITY.—The Secretary, acting in accordance with the authority contained in the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5901-5920) and other law applicable to the Secretary—

(1) is authorized and directed to—

(A) pursue a program of research, development, and demonstration, including the use of joint ventures with the private sector, to achieve the purpose of this Act, including the goals established under section 4; and

(B) undertake joint ventures as provided in section 6; and

(2) is authorized to undertake, from time to time, joint ventures in technology areas other than those set forth in section 6(c), subject to the conditions set forth in section 6(b).

SEC. 3. DEFINITIONS.

42 USC 12002.

As used in this Act—

(1) the term "invention" means an invention or discovery that is patented or for which a patent may be obtained under title 35, United States Code, or any novel variety of plant that is protected or for which plant variety protection may be obtained under the Plant Variety Protection Act (7 U.S.C. 2321 et seq.) and that is conceived or reduced to practice as a result of work under an agreement entered into under this Act;

(2) "joint venture" means any agreement entered into under this Act by the Secretary with more than one or a consortium of non-Federal persons (including a joint venture under the National Cooperative Research Act of 1984 (15 U.S.C. 4301 et seq.)) for cost-shared research, development, or demonstration of technologies, but does not include procurement contracts, grant agreements, or cooperative agreements as those terms are used in sections 6303, 6304, and 6305 of title 31, United States Code;

(3) the term "non-Federal person" means an entity located in the United States, the controlling interest (as defined by the Secretary) of which is held by persons of the United States, including—

(A) a for-profit business;

(B) a private foundation;

(C) a nonprofit organization such as a university;

(D) a trade or professional society; and

(E) a unit of State or local government;

(4) the term "Secretary" means the Secretary of Energy;

(5) the term "small business", with respect to a participant in any joint venture under this Act, means a private firm that does not exceed the numerical size standard promulgated by the Small Business Administration under section 3(a) of the Small Business Act (15 U.S.C. 632(a)) for the Standard Industrial Classification (SIC) code designated by the Secretary of Energy as the primary business activity to be undertaken in the venture; and

(6) the term "United States" means the several States, the District of Columbia, the Commonwealth of Puerto Rico, the United States Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, and any other Commonwealth, territory, or possession of the United States.

42 USC 12003.

SEC. 4. NATIONAL GOALS AND MULTI-YEAR FUNDING FOR FEDERAL WIND, PHOTOVOLTAICS, AND SOLAR THERMAL PROGRAMS.

(a) NATIONAL GOALS.—The following are declared to be the national goals for the wind, photovoltaics, and solar thermal energy programs being carried out by the Secretary:

(1) WIND.—(A) In general, the goals for the Wind Energy Research Program include improving design methodologies and developing more reliable and efficient wind turbines to increase the cost competitiveness of wind energy. Research efforts shall emphasize—

(i) activities that address near-term technical problems and assist private sector exploitation of market opportunities of the wind energy industry;

(ii) developing technologies such as advanced airfoils and variable speed generators to increase wind turbine output and reduce maintenance costs by decreasing structural stress and fatigue;

(iii) increasing the basic knowledge of aerodynamics, structural dynamics, fatigue, and electrical systems interactions as applied to wind energy technology; and

(iv) improving the compatibility of electricity produced from wind farms with conventional utility needs.

(B) Specific goals for the Wind Energy Research Program shall be to—

(i) reduce average wind energy costs to 3 to 5 cents per kilowatt hour by 1995;

(ii) reduce capital costs of new wind energy systems to $500 to $750 per kilowatt of installed capacity by 1995;

(iii) reduce operation and maintenance costs for wind energy systems to less than one cent per kilowatt hour by 1995; and

(iv) increase capacity factors for new wind energy systems to 25 to 35 percent by 1995.

(2) PHOTOVOLTAICS.—(A) In general, the goals of the Photovoltaic Energy Systems Program shall include improving the reliability and conversion efficiencies of and lowering the costs of photovoltaic conversion. Research efforts shall emphasize advancements in the performance, stability, and durability of photovoltaic materials.

(B) Specific goals of the Photovoltaic Energy Systems Program shall be to—

(i) improve operational reliability of photovoltaic modules to 30 years by 1995;

(ii) increase photovoltaic conversion efficiencies by 20 percent by 1995;

(iii) decrease new photovoltaic module direct manufacturing costs to $800 per kilowatt by 1995; and

(iv) increase cost efficiency of photovoltaic power production to 10 cents per kilowatt hour by 1995.

(3) SOLAR THERMAL.—(A) In general, the goal of the Solar Thermal Energy Systems Program shall be to advance research and development to a point where solar thermal technology is cost-competitive with conventional energy sources, and to promote the integration of this technology into the production of industrial process heat and the conventional utility network. Research and development shall emphasize development of a thermal storage technology to provide capacity for shifting power to periods of demand when full insolation is not available; improvement in receivers, energy conversion devices, and innovative concentrators using stretch membranes, lenses, and other materials; and exploration of advanced manufacturing techniques.

(B) Specific goals of the Solar Thermal Energy Systems Program shall be to—

(i) reduce solar thermal costs for industrial process heat to $9.00 per million Btu by 1995; and

(ii) reduce average solar thermal costs for electricity to 4 to 5 cents per kilowatt hour by 1995.

(4) OTHER TECHNOLOGIES.—The Secretary shall submit to the Congress, as part of the first report submitted under section 9, recommendations for specific cost goals and other pertinent goals for 1995 for Department of Energy research, development, and demonstration programs in Biofuels Energy Systems, Hydrogen Energy Systems, Solar Buildings Energy Systems,

Ocean Energy Systems, Geothermal Energy Systems, Low-Head Hydro, and Energy Storage Systems.

Reports.

(b) AMENDED GOALS.—Whenever the Secretary determines that any of the goals established under this section is no longer appropriate, the Secretary shall notify Congress, as part of a report submitted under section 9, of the reason for the determination and provide an amended goal that is consistent with the purpose stated in section 2(b).

(c) AUTHORIZATIONS.—There are authorized to be appropriated to the Secretary for the following renewable energy research, development, and demonstration programs: the Wind Energy Research Program, the Photovoltaic Energy Systems Program, the Solar Thermal Energy Systems Program, the Biofuels Energy Systems Program, the Hydrogen Energy Systems Program, the Solar Buildings Energy Systems Program, the Ocean Energy Systems Program, and the Geothermal Energy Systems Program—

(1) not to exceed $113,000,000 for fiscal year 1991, of which—
(A) not to exceed $39,000,000 shall be available for the Photovoltaic Energy Systems Program;
(B) not to exceed $19,000,000 shall be available for the Geothermal Energy Systems Program; and
(C) not to exceed $4,000,000 shall be available for the Hydrogen Energy Systems Program;

(2) not to exceed $121,000,000 for fiscal year 1992, of which—
(A) not to exceed $40,000,000 shall be available for the Photovoltaic Energy Systems Program;
(B) not to exceed $20,500,000 shall be available for the Geothermal Energy Systems Program; and
(C) not to exceed $5,000,000 shall be available for the Hydrogen Energy Systems Program; and

(3) not to exceed $124,000,000 for fiscal year 1993, of which—
(A) not to exceed $40,000,000 shall be available for the Photovoltaic Energy Systems Program;
(B) not to exceed $23,000,000 shall be available for the Geothermal Energy Systems Program; and
(C) not to exceed $6,000,000 shall be available for the Hydrogen Energy Systems Program.

Each of the President's annual budget requests submitted to Congress after the date of enactment of this Act shall include as separate line items each of the categories of renewable energy programs described in this subsection.

42 USC 12004.

SEC. 5. ENERGY EFFICIENCY AUTHORIZATIONS.

There are authorized to be appropriated to the Secretary for the following energy efficiency research, development, and demonstration programs: transportation, industrial, buildings and community systems, multi-sector, and policy and management—

(1) not to exceed $201,100,000 for fiscal year 1991, of which—
(A) not to exceed $68,300,000 shall be available for the transportation program; and
(B) not to exceed $53,500,000 shall be available for the industrial program;

(2) not to exceed $210,600,000 for fiscal year 1992, of which—
(A) not to exceed $71,000,000 shall be available for the transportation program; and
(B) not to exceed $54,700,000 shall be available for the industrial program; and

(3) not to exceed $225,000,000 for fiscal year 1993, of which—

(A) not to exceed $73,900,000 shall be available for the transportation program; and

(B) not to exceed $56,900,000 shall be available for the industrial program.

SEC. 6. JOINT VENTURES. 42 USC 12005.

(a) FINDINGS AND PURPOSE.—

(1) FINDINGS.—For purposes of this section, Congress finds that joint ventures can—

(A) improve coordination in technology development among firms in industries attempting to commercialize renewable energy and energy efficiency technologies;

(B) facilitate transfer of renewable energy and energy efficiency technologies, including critical enabling technologies, to the private sector; and

(C) enhance the ability of domestic firms to compete with foreign enterprises in sales of renewable energy and energy efficiency technologies.

(2) PURPOSE.—The purpose of this section is to direct the Secretary to make use of joint ventures to further commercialization of renewable energy and energy efficiency technologies.

(b) JOINT VENTURES.—

(1) ESTABLISHMENT.—The Secretary shall solicit proposals for joint ventures in each of the technology areas under subsection (c). The Secretary shall select at least one joint venture in each of those technology areas, unless no qualified proposals in that area are received. Each joint venture selected under this section shall include at least one for-profit business. Research and development activities supported under this section shall be performed in the United States. Each joint venture under this section shall require the manufacture and reproduction, substantially within the United States, for commercial sale of any invention that may result from the joint venture.

(2) COST SHARING.—

(A) The Secretary shall require at least 50 percent of the costs directly and specifically related to any joint venture under this section, including cash, personnel, services, equipment, and other resources, to be provided from non-Federal sources.

(B) The Secretary may reduce the amount of the costs required to be provided by any joint venture under subparagraph (A) upon application if the Secretary determines that—

(i) the joint venture is composed exclusively of small businesses or of small businesses and nonprofit entities; and

(ii) the reduction is appropriate and necessary for the successful operation of the proposed joint venture.

(C) The extent of cost sharing provided under proposals shall be a criterion for selection of proposals under this section.

(3) ADVISORY COMMITTEE.—(A) The Secretary shall establish an Advisory Committee on Renewable Energy and Energy Efficiency Joint Ventures (hereafter in this Act referred to as the "Advisory Committee") to advise the Secretary on the develop-

ment of the solicitation and evaluation criteria for joint ventures, and on otherwise carrying out his responsibilities under this section. The Secretary shall appoint members to the Advisory Committee, including at least one member representing—

(i) the Secretary of Commerce;

(ii) the National Laboratories of the Department of Energy;

(iii) the Solar Energy Research Institute;

(iv) the Electric Power Research Institute;

(v) the Gas Research Institute;

(vi) the National Institute of Building Sciences;

(vii) the National Institute of Standards and Technology;

(viii) associations of firms in the major renewable energy manufacturing industries; and

(ix) associations of firms in the major energy efficiency manufacturing industries.

The Advisory Committee may establish such subcommittees as it considers necessary to carry out this Act.

(B) The Advisory Committee, within 120 days after its establishment, shall provide the Secretary with recommendations regarding the structure and selection criteria for a solicitation of proposals for joint ventures. The Advisory Committee shall also advise the Secretary from time to time on the implementation of the joint venture program. Recommendations of the Advisory Committee shall be available to the public.

Public information.

(4) DRAFT SOLICITATION AND PUBLIC COMMENT.—The Secretary shall issue a draft solicitation for joint ventures by September 30, 1990. After such draft solicitation has been issued, the Secretary shall provide for a period of public comment before the issuance of a final solicitation.

(5) PROTECTION OF PROPRIETARY RIGHTS.—Joint ventures, participants in joint ventures, and inventions developed as a result of joint ventures under this section shall be subject to section 5 of the Steel and Aluminum Energy Conservation and Technology Competitiveness Act of 1988 (15 U.S.C. 5104).

(c) TECHNOLOGIES.—

(1) PHOTOVOLTAICS TECHNOLOGY.—(A) The Secretary shall solicit proposals for and provide financial assistance to at least one joint venture for the demonstration of photovoltaic conversion of solar energy in accordance with the provisions of this paragraph.

(B) The purpose of joint ventures supported under this paragraph shall be to design, test, and demonstrate critical enabling technologies for photovoltaic conversion of solar energy so as to achieve, to the maximum extent practicable, the goals of the Photovoltaic Energy Systems Program set forth in section 4(a)(2), as those goals may be amended under section 4(b).

Appropriation authorization.

(C) There are authorized to be appropriated to the Secretary not to exceed $2,700,000 for each of the fiscal years 1991, 1992, and 1993 to carry out this paragraph.

(2) WIND ENERGY TECHNOLOGY.—(A) The Secretary shall solicit proposals for and provide financial assistance to at least one joint venture for the demonstration of the conversion of wind energy in accordance with the provisions of this paragraph.

(B) The purpose of joint ventures supported under this paragraph shall be to design, test, and demonstrate critical enabling

technologies for the conversion of wind energy so as to achieve, to the maximum extent practicable, the goals of the Wind Energy Research Program set forth in section 4(a)(1), as those goals may be amended under section 4(b).

(C) There are authorized to be appropriated to the Secretary not to exceed $2,700,000 for each of the fiscal years 1991, 1992, and 1993 to carry out this paragraph. Appropriation authorization.

(3) SOLAR THERMAL TECHNOLOGY.—(A) The Secretary shall solicit proposals for and provide financial assistance to at least one joint venture for the demonstration of the use of solar thermal energy in accordance with the provisions of this paragraph.

(B) The purpose of joint ventures supported under this paragraph shall be to design, test, and demonstrate critical enabling technologies for the use of solar thermal energy so as to achieve, to the maximum extent practicable, the goals of the Solar Thermal Energy Systems Program set forth in section 4(a)(3), as those goals may be amended under section 4(b).

(C) There are authorized to be appropriated to the Secretary not to exceed $2,400,000 for each of the fiscal years 1991, 1992, and 1993 to carry out this paragraph. Appropriation authorization.

(4) FACTORY-MADE HOUSING.—(A) The Secretary shall solicit proposals for and provide financial assistance to at least one joint venture in order to establish regional projects to develop or demonstrate techniques to improve the energy performance of factory-made housing offered by United States firms. In locating projects under this paragraph, the Secretary shall consider regional differences in housing needs, housing design, construction technique, marketing practices, and construction materials.

(B) Projects supported pursuant to this paragraph shall be designed to demonstrate state-of-the-art product quality, energy efficiency, and adaptability to renewable forms of energy of factory-made housing offered for sale in the United States. Such projects shall—

(i) be structured to demonstrate improvements in housing design, fabrication, delivery systems, construction processes, and marketing;

(ii) develop a detailed characterization of the needs of the home building industry;

(iii) establish a close working relationship with all sectors of the home building industry; and

(iv) be coordinated to pool and conserve resources.

(C) There are authorized to be appropriated to the Secretary not to exceed $5,000,000 for each of the fiscal years 1991, 1992, and 1993 to carry out this paragraph. Appropriation authorization.

(5) ADVANCED DISTRICT COOLING TECHNOLOGY.—(A) The Secretary shall solicit proposals for and provide financial assistance to at least one joint venture for the demonstration of advanced district cooling technologies that are applicable in cities with high cooling loads, in accordance with the provisions of this paragraph. Urban areas.

(B) The purpose of joint ventures supported under this paragraph shall be to develop technical strategies for decreasing the capital cost and increasing the energy efficiency of major district heating and cooling system components and to assist in making district cooling available to local governments. State and local governments.

(C) The Secretary shall select a city or cities for application of advanced district cooling technologies developed by joint ventures supported under this paragraph. The activities to be carried out in such application shall include district cooling assessment, feasibility, and engineering design studies.

Appropriation authorization.

(D) There are authorized to be appropriated to the Secretary not to exceed $1,000,000 for each of the fiscal years 1991, 1992, and 1993 to carry out this paragraph.

(d) SECRETARIAL DISCRETION.—(1) If the Secretary, based on the recommendations of the Advisory Committee under subsection (b)(3)(B), with respect to a technology described in paragraph (1), (2), (3), (4), or (5) of subsection (c), determines, that—

(A) there is insufficient private sector interest in joint ventures for the demonstration of such technology to satisfy the requirement of subsection (b)(2); or

(B) such joint ventures will substantially substitute for research, development, and demonstration activities already financed by the private sector,

then the Secretary shall not be subject to the requirements of this section with respect to the technology described in such paragraph, and the Secretary shall notify Congress and provide a written explanation of the reasons for the determination.

(2) Promptly after notifying the Congress under paragraph (1), the Secretary shall consult with the Advisory Committee, and, based on the recommendations of such Committee, shall promptly transmit to Congress a plan for the selection of a substitute field or technology in which to solicit joint ventures that develop or demonstrate, consistent with this section, an alternative renewable energy or energy efficiency technology so as to accomplish the purpose of this Act. Any unexpended funds authorized to be appropriated under subsection (c) for joint ventures with respect to which a determination is made under paragraph (1) may be used for a substitute joint venture selected under this paragraph.

(3) When 30 calendar days have elapsed after transmittal of a plan under paragraph (2), the Secretary shall proceed with solicitations for joint ventures appropriate to that plan as if such joint ventures were required under subsection (c).

(e) ADDITIONAL JOINT VENTURES.—(1) The Secretary shall recommend to the Congress three additional joint ventures in the fields of renewable energy or energy efficiency technologies for fiscal year 1993. Each proposed project shall be described in sufficient detail to support congressional authorization.

(2) In selecting proposed projects under this subsection, the Secretary shall consider the recommendations of the Advisory Committee, and shall take into account the extent to which such projects will contribute to earlier commercialization of key technologies than might not occur without Federal support under this subsection, and the extent to which such projects will contribute to the competitiveness of United States firms engaged in international trade in renewable energy or energy efficiency technologies.

(3) Joint ventures supported pursuant to a recommendation under this subsection shall be carried out as if they were required under subsection (c).

SEC. 7. RENEWABLE ENERGY EXPORTS.

(a) DISSEMINATION OF INFORMATION; ACCESS TO FOREIGN MARKETS.—Section 256(c)(2)(D) of the Energy Policy and Conservation Act (42 U.S.C. 6276(c)(2)(D)) is amended—

(1) in clause (i), by inserting after "commerce," the following: "and to potential end users, including other industry sectors in foreign countries such as health care, rural development, communications, and refrigeration, and others,"; and

Health and medical care. Rural areas. Communications and telecommunications.

(2) in clause (ii), by striking "export opportunities" and inserting in lieu thereof "export and export financing opportunities".

(b) AUTHORIZATION AND PROGRAM.—Section 256(d) of the Energy Policy and Conservation Act (42 U.S.C. 6276(d)) is amended—

(1) by inserting "(1)" after "(d)"; and

(2) by adding at the end the following new paragraph:

"(2) The interagency group shall establish a program to inform other countries of the benefits of policies that would allow small facilities which produce renewable energy to compete effectively with producers of energy from nonrenewable sources.".

(c) REPORT, FUNCTIONS, AND AUTHORIZATIONS.—Section 256 of the Energy Policy and Conservation Act (42 U.S.C. 6276) is amended by adding at the end the following new subsections:

"(e) The interagency working group established under subsection (d) shall annually report to Congress, describing the actions of each agency represented by a member of the working group taken during the previous fiscal year to achieve the purposes of such working group and of this section. Such report shall describe the exports of renewable energy technology that have occurred as a result of such agency actions.

"(f)(1) The interagency working group shall—

"(A) establish, in consultation with representatives of affected industries, a plan to increase United States exports of renewable energy technologies, and include in such plan recommended guidelines for agencies that are represented on the working group with respect to the financing of, or other actions they can take within their programs to promote, exports of such renewable energy technologies;

"(B) develop, in consultation with representatives of affected industries, recommended administrative guidelines for Federal export loan programs to simplify application by firms seeking export assistance for renewable energy technologies from agencies implementing such programs; and

"(C) recommend specific renewable energy technology markets for primary emphasis by Federal export loan programs, development programs, and private sector assistance programs.

"(2) The interagency working group shall include a description of the plan established under paragraph (1)(A) in no later than the second report submitted under subsection (e), and shall include in subsequent reports a description of any modifications to such plan and of the progress in implementing the plan.

"(g) For purposes of this section, the term 'renewable energy' includes energy efficiency to the extent it is a part of a renewable energy system or technology.

"(h) There are authorized to be appropriated to the Secretary for activities of the interagency working group established under subsection (d) not to exceed—

Appropriation authorization.

"(1) $3,000,000 for fiscal year 1991;

"(2) $3,300,000 for fiscal year 1992; and
"(3) $3,600,000 for fiscal year 1993.".

SEC. 8. RENEWABLE ENERGY AND ENERGY EFFICIENCY.

(a) DISSEMINATION OF INFORMATION.—Section 523 of the National Energy Conservation Policy Act (42 U.S.C. 8243) is amended by adding a new subsection (d) as follows:

"(d) In order to more widely disseminate information about the program under this part and under part 3 and the benefits of renewable energy and energy efficiency technology, the Secretary shall establish a program which includes site visits and technical briefings, to disseminate such information to Federal procurement officers and Federal loan officers. The Secretary shall utilize available funds for the program under this subsection.".

(b) DEPARTMENT OF DEFENSE HOUSING.—Section 2857(b)(1) of title 10, United States Code, is amended by striking "significant savings of fossil-fuel-derived energy" and inserting in lieu thereof "reduced energy costs".

(c) OVERSEAS PRIVATE INVESTMENT CORPORATION LOANS.—Section 234(e) of the Foreign Assistance Act of 1961 is amended— 22 USC 2194.

Grants.
Small business.

(1) in the first sentence, by inserting after "cooperatives" the following: "and including the initiation of incentives, grants, and studies for renewable energy and other small business activities"; and

(2) by adding at the end thereof the following new sentence: "Administrative funds may not be made available for incentives, grants, and studies for renewable energy and other small business activities.".

42 USC 12006.

SEC. 9. REPORTS.

(a) REPORT BY THE SECRETARY.—One year after the date of the enactment of this Act and annually thereafter, the Secretary shall report to Congress on the programs, projects, and joint ventures supported under this Act and the progress being made toward accomplishing the goals and purposes set forth in this Act.

(b) NATIONAL RENEWABLE ENERGY AND ENERGY EFFICIENCY MANAGEMENT PLAN.—

(1) The Secretary, in consultation with the Advisory Committee, shall prepare a management plan to be administered and carried out by the Secretary in the conduct of activities under this Act.

(2) After opportunity for public comment and consideration, as appropriate, of such comment, the Secretary shall publish the plan.

(3) In addition to describing the Secretary's intentions for administering this Act, the plan shall include a comprehensive strategy for assisting the private sector—

(A) in commercializing the renewable energy and energy efficiency technologies developed under this Act; and

(B) in meeting competition from foreign suppliers of products derived from renewable energy and energy efficiency technologies.

(4) The plan shall address the role of federally-assisted research, development, and demonstration in the achievement of applicable national policy goals of the National Energy Policy Plan required under section 801 of the Department of Energy Organization Act (42 U.S.C. 7321).

(5) The plan shall accompany the President's annual budget submission to the Congress.

(c) REPORT ON OPTIONS.—As part of the first report submitted under subsection (a), the Secretary shall submit to Congress a report analyzing options available to the Secretary under existing law to assist the private sector with the timely commercialization of wind, photovoltaic, solar thermal, biofuels, hydrogen, solar buildings, ocean, geothermal, low-head hydro, and energy storage renewable energy technologies and energy efficiency technologies through emphasis on development and demonstration assistance to specific technologies in the research, development, and demonstration programs of the Department of Energy that are near commercial application.

SEC. 10. NO ANTITRUST IMMUNITY OR DEFENSES. 42 USC 12007.

Nothing in this Act shall be deemed to convey to any person, partnership, corporation, or other entity immunity from civil or criminal liability under any antitrust law or to create defenses to actions under any antitrust law. As used in this section, "antitrust laws" means those Acts set forth in section 1 of the Clayton Act (15 U.S.C. 12), as amended.

Approved December 11, 1989.

LEGISLATIVE HISTORY—S. 488 (H.R. 1216):

HOUSE REPORT: No. 101-308, Pt. 1 (Comm. on Science, Space, and Technology) and Pt. 2 (Comm. on Energy and Commerce), accompanying H.R. 1216.
SENATE REPORT: No. 101-107 (Comm. on Energy and Natural Resources).
CONGRESSIONAL RECORD, Vol. 135 (1989):
Sept. 22, considered and passed Senate.
Nov. 17, H.R. 1216 considered and passed House; proceedings vacated and S. 488, amended, passed in lieu. Senate concurred in House amendment.
WEEKLY COMPILATION OF PRESIDENTIAL DOCUMENTS, Vol 25 (1989):
Dec. 11, Presidential statement.

Public Law 101-224
101st Congress

An Act

To authorize appropriations for certain ocean and coastal programs of the National Oceanic and Atmospheric Administration.

Dec. 12, 1989
[H.R. 1668]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

National Oceanic and Atmospheric Administration Ocean and Coastal Programs Authorization Act of 1989.

SECTION 1. SHORT TITLE.

This Act may be cited as the "National Oceanic and Atmospheric Administration Ocean and Coastal Programs Authorization Act of 1989".

SEC. 2. NATIONAL OCEAN SERVICE.

(a) MAPPING, CHARTING, AND GEODESY.—There are authorized to be appropriated to the Department of Commerce for carrying out mapping, charting, and geodesy activities of the National Oceanic and Atmospheric Administration (including geodetic data collection and analysis) under the Act entitled "An Act to define the functions and duties of the Coast and Geodetic Survey, and for other purposes", approved August 6, 1947 (33 U.S.C. 883a et seq.), and any other law involving those activities, not more than $47,694,000 for fiscal year 1990.

(b) OBSERVATIONS AND ASSESSMENTS.—There are authorized to be appropriated to the Department of Commerce for carrying out observation and assessment activities of the National Oceanic and Atmospheric Administration—

(1) under the Act entitled "An Act to define the functions and duties of the Coast and Geodetic Survey, and for other purposes", approved August 6, 1947 (33 U.S.C. 883a et seq.), and any other law involving those activities, not more than $28,533,000 for fiscal year 1990;

(2) under the National Ocean Pollution Planning Act of 1978 (33 U.S.C. 1701 et seq.), not more than $4,000,000 for fiscal year 1990; and

(3) under title II of the Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 1441 et seq.), not more than $17,000,000 for fiscal year 1990.

(c) OCEAN AND COASTAL MANAGEMENT.—There are authorized to be appropriated to the Department of Commerce for carrying out ocean and coastal management activities of the National Oceanic and Atmospheric Administration under title III of the Marine Protection, Research, and Sanctuaries Act of 1972 (16 U.S.C. 1431 et seq.), the Coastal Zone Management Act of 1972 (16 U.S.C. 1451 et seq.), the Deep Seabed Hard Mineral Resources Act (30 U.S.C. 1401 et seq.), and any other law involving those activities, not more than $57,752,000 for fiscal year 1990.

SEC. 3. OCEAN AND GREAT LAKES RESEARCH.

There are authorized to be appropriated to the Department of Commerce for carrying out ocean and Great Lakes research activi-

ties of the National Oceanic and Atmospheric Administration under the Act entitled "An Act to define the functions and duties of the Coast and Geodetic Survey, and for other purposes", approved August 6, 1947 (33 U.S.C. 833a et seq.), the Act entitled "An Act to increase the efficiency and reduce the expenses of the Signal Corps of the Army, and to transfer the Weather Bureau to the Department of Agriculture", approved October 1, 1890 (15 U.S.C. 311 et seq.), the National Sea Grant College Program Act (33 U.S.C. 1121 et seq.), and any other law involving those activities, not more than $95,855,000 for fiscal year 1990.

SEC. 4. OYSTER DISEASE RESEARCH.

Pursuant to section 206 of the National Sea Grant College Program Act (33 U.S.C. 1125), $3,000,000 may be appropriated for priority oyster disease research in fiscal year 1990.

SEC. 5. PROGRAM SUPPORT.

(a) ADMINISTRATION AND SERVICES.—There are authorized to be appropriated to the Department of Commerce for carrying out executive direction and administrative activities of the National Oceanic and Atmospheric Administration (including management, administrative support, provision of retired pay of National Oceanic and Atmospheric Administration commissioned officers, and policy development) under the Act entitled "An Act to clarify the status and benefits of commissioned officers of the National Oceanic and Atmospheric Administration, and for other purposes", approved December 31, 1970 (33 U.S.C. 857-1 et seq.), and any other law involving those activities, not more than $73,994,000 for fiscal year 1990.

(b) FACILITIES.—There are authorized to be appropriated to the Department of Commerce for acquisition, construction, maintenance, and operation of facilities of the National Oceanic and Atmospheric Administration under any law involving those activities, not more than $4,082,000 for fiscal year 1990.

(c) MARINE SERVICES.—There are authorized to be appropriated to the Department of Commerce for carrying out marine services activities of the National Oceanic and Atmospheric Administration (including ship operations, maintenance, and support) under the Act entitled "An Act to define the functions and duties of the Coast and Geodetic Survey, and for other purposes", approved August 6, 1947 (33 U.S.C. 883a et seq.), and any other law involving those activities, not more than $59,910,000 for fiscal year 1990.

(d) AIRCRAFT SERVICES.—There are authorized to be appropriated to the Department of Commerce for carrying out aircraft services activities of the National Oceanic and Atmospheric Administration (including aircraft operations, maintenance, and support) under the Act entitled "An Act to increase the efficiency and reduce the expenses of the Signal Corps of the Army, and to transfer the Weather Bureau to the Department of Agriculture", approved October 1, 1890 (15 U.S.C. 311 et seq.), and any other law involving those activities, not more than $8,446,000 for fiscal year 1990.

SEC. 6. REQUIREMENT OF NOTICE OF REPROGRAMMING

The Secretary of Commerce shall not reprogram an amount appropriated under the authority of this Act unless, before carrying out that reprogramming, the Secretary provides notice of that reprogramming to the Committee on Commerce, Science, and

Transportation of the Senate and to the Committee on Merchant Marine and Fisheries and the Committee on Science, Space, and Technology of the House of Representatives.

SEC. 7. INTERNATIONAL FISHERY AGREEMENT.

Japan.
16 USC 1823 note.

Notwithstanding any provision of the Magnuson Fishery Conservation and Management Act (16 U.S.C. 1801 et seq.), the governing international fishery agreement entered into between the Government of the United States and the Government of Japan, as contained in the message to the Congress from the President of the United States dated October 30, 1989, is approved by the Congress and shall enter into force and effect with respect to the United States on the date of enactment of this Act.

SEC. 8. LOBSTER CONSERVATION.

Section 307(1) of the Magnuson Fishery Conservation and Management Act (16 U.S.C. 1857(1)) is amended—

(1) in subparagraph (H) by striking "or" at the end;

(2) in subparagraph (I) by striking the period at the end and inserting in lieu thereof "; or"; and

(3) by adding at the end the following new subparagraph:

"(J) to ship, transport, offer for sale, sell, or purchase, in interstate or foreign commerce, any whole live lobster of the species Homarus americanus, that—

"(i) is smaller than the minimum possession size in effect at the time under the American Lobster Fishery Management Plan, as implemented by regulations published in part 649 of title 50, Code of Federal Regulations, or any successor to that plan, implemented under this title;

"(ii) is bearing eggs attached to its abdominal appendages; or

"(iii) bears evidence of the forcible removal of extruded eggs from its abdominal appendages.".

Approved December 12, 1989.

LEGISLATIVE HISTORY—H.R. 1668:

HOUSE REPORTS: No. 101-119, Pt. 1 (Comm. on Merchant Marine and Fisheries), Pt. 2 (Comm. on Public Works and Transportation), and Pt. 3 (Comm. on Science, Space, and Technology).

SENATE REPORTS: No. 101-187 (Comm. on Commerce, Science, and Transportation).

CONGRESSIONAL RECORD, Vol. 135 (1989):

Sept. 6, considered and passed House.

Nov. 17, considered and passed Senate, amended.

Nov. 20, House concurred in Senate amendment.

Public Law 101-352
101st Congress

An Act

To direct the completion of the research recommended by the Technical Study Group on Cigarette and Little Cigar Fire Safety and to provide for an assessment of the practicality of a cigarette fire safety performance standard.

Aug. 10, 1990
[H.R. 293]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Fire Safe Cigarette Act of 1990.

SECTION 1. SHORT TITLE; FINDINGS.

15 USC 2054 note.

(a) SHORT TITLE.—This Act may be cited as the "Fire Safe Cigarette Act of 1990".

(b) FINDINGS.—The Congress finds that—

(1) cigarette-ignited fires are the leading cause of fire deaths in the United States,

(2) in 1987, there were 1,492 deaths from cigarette-ignited fires, 3,809 serious injuries, and $395,000,000 in property damage caused by such fires,

(3) the final report of the Technical Study Group on Cigarette and Little Cigar Fire Safety under the Cigarette Safety Act of 1984 determined that (A) it is technically feasible and may be commercially feasible to develop a cigarette that will have a significantly reduced propensity to ignite furniture and mattresses, and (B) the overall impact on other aspects of the United States society and economy may be minimal,

(4) the final report of the Technical Study Group on Cigarette and Little Cigar Fire Safety under the Cigarette Safety Act of 1984 further determined that the value of a cigarette with less of a likelihood to ignite furniture and mattresses which would prevent property damage and personal injury and loss of life is economically incalculable,

(5) it is appropriate for the Congress to require by law the completion of the research described in the final report of the Technical Study Group on Cigarette and Little Cigar Fire Safety and an assessment of the practicability of developing a performance standard to reduce cigarette ignition propensity, and

(6) it is appropriate for the Consumer Product Safety Commission to utilize its expertise to complete the recommendations for further work and report to Congress in a timely fashion.

SEC. 2. COMPLETION OF FIRE SAFETY RESEARCH.

15 USC 2054 note.

(a) CENTER FOR FIRE RESEARCH.—At the request of the Consumer Product Safety Commission, the National Institute for Standards and Technology's Center for Fire Research shall—

(1) develop a standard test method to determine cigarette ignition propensity,

(2) compile performance data for cigarettes using the standard test method developed under paragraph (1), and

(3) conduct laboratory studies on and computer modeling of ignition physics to develop valid, user-friendly predictive capability.

The Commission shall make such request not later than the expiration of 30 days after the date of the enactment of this Act.

(b) COMMISSION.—The Consumer Product Safety Commission shall—

(1) design and implement a study to collect baseline and followup data about the characteristics of cigarettes, products ignited, and smokers involved in fires, and

(2) develop information on societal costs of cigarette-ignited fires.

(c) HEALTH AND HUMAN SERVICES.—The Consumer Product Safety Commission, in consultation with the Secretary of Health and Human Services, shall develop information on changes in the toxicity of smoke and resultant health effects from cigarette prototypes. The Commission shall not obligate more than $50,000 to develop such information.

15 USC 2054 note.

SEC. 3. ADVISORY GROUP.

(a) ESTABLISHMENT.—There is established the Technical Advisory Group to advise and work with the Consumer Product Safety Commission and National Institute for Standards and Technology's Center for Fire Research on the implementation of this Act. The Technical Advisory Group may hold hearings to develop information to carry out its functions. The Technical Advisory Group shall terminate 1 month after the submission of the final report of the Chairman of the Consumer Product Safety Commission under section 4.

Termination date.

(b) MEMBERS.—The Technical Advisory Group shall consist of the same individuals appointed to the Technical Study Group on Cigarette and Little Cigar Fire Safety under section 3(a) of the Cigarette Safety Act of 1984. If such an individual is unavailable to serve on the Technical Advisory Group, the entity which such individual represented on such Technical Study Group shall submit to the Chairman of the Consumer Product Safety Commission the name of another individual to be appointed by the Chairman to represent such group on the Technical Advisory Group.

15 USC 2054 note.

SEC. 4. REPORTS.

The Chairman of the Consumer Product Safety Commission, in consultation with the Technical Advisory Group, shall submit to Congress three reports on the activities undertaken under section 2 as follows: The first such report shall be made not later than 13 months after the date of the enactment of this Act, the second such report shall be made not later than 25 months after such date, and the final such report shall be made not later than 36 months after such date.

15 USC 2054 note.

SEC. 5. CONFIDENTIALITY.

(a) IN GENERAL.—Any information provided to the National Institute for Standards and Technology's Center for Fire Research, to the Consumer Product Safety Commission, or to the Technical Advisory Group under section 2 which is designated as trade secret or confidential information shall be treated as trade secret or confidential information subject to section 552(b)(4) of title 5, United States Code, and section 1905 of title 18, United States Code, and shall not be revealed, except as provided under subsection (b). No member or employee of the Center for Fire Research, the Consumer Product Safety Commission, or the Technical Advisory Group and

no person assigned to or consulting with the Center for Fire Research, the Consumer Product Safety Commission, or the Technical Advisory Group, shall disclose any such information to any person who is not a member or employee of, assigned to, or consulting with, the Center for Fire Research, Consumer Product Safety Commission, or the Technical Advisory Group unless the person submitting such information specifically and in writing authorizes such disclosure.

(b) CONSTRUCTION.—Subsection (a) does not authorize the withholding of any information from any duly authorized subcommittee or committee of the Congress, except that if a subcommittee or committee of the Congress requests the Consumer Product Safety Commission, the National Institute for Standards and Technology's Center for Fire Research, or the Technical Advisory Group to provide such information, the Commission, the Center for Fire Research, or Technical Advisory Group shall notify the person who provided the information of such a request in writing.

Approved August 10, 1990.

LEGISLATIVE HISTORY: H.R. 293:

CONGRESSIONAL RECORD, Vol. 136 (1990):
July 30, considered and passed House and Senate.

OIL POLLUTION ACT OF 1990

Public Law 101-380
101st Congress

An Act

Aug. 18, 1990
[H.R. 1465]

To establish limitations on liability for damages resulting from oil pollution, to establish a fund for the payment of compensation for such damages, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Oil Pollution Act of 1990.
Maritime affairs.
Environmental protection.
33 USC 2701 note.

SECTION 1. SHORT TITLE.

This Act may be cited as the "Oil Pollution Act of 1990".

SEC. 2. TABLE OF CONTENTS.

The contents of this Act are as follows:

TITLE I—OIL POLLUTION LIABILITY AND COMPENSATION

Sec. 1001. Definitions.
Sec. 1002. Elements of liability.
Sec. 1003. Defenses to liability.
Sec. 1004. Limits on liability.
Sec. 1005. Interest.
Sec. 1006. Natural resources.
Sec. 1007. Recovery by foreign claimants.
Sec. 1008. Recovery by responsible party.
Sec. 1009. Contribution.
Sec. 1010. Indemnification agreements.
Sec. 1011. Consultation on removal actions.
Sec. 1012. Uses of the Fund.
Sec. 1013. Claims procedure.
Sec. 1014. Designation of source and advertisement.
Sec. 1015. Subrogation.
Sec. 1016. Financial responsibility.
Sec. 1017. Litigation, jurisdiction, and venue.
Sec. 1018. Relationship to other law.
Sec. 1019. State financial responsibility.
Sec. 1020. Application.

TITLE II—CONFORMING AMENDMENTS

Sec. 2001. Intervention on the High Seas Act.
Sec. 2002. Federal Water Pollution Control Act.
Sec. 2003. Deepwater Port Act.
Sec. 2004. Outer Continental Shelf Lands Act Amendments of 1978.

TITLE III—INTERNATIONAL OIL POLLUTION PREVENTION AND REMOVAL

Sec. 3001. Sense of Congress regarding participation in international regime.
Sec. 3002. United States-Canada Great Lakes oil spill cooperation.
Sec. 3003. United States-Canada Lake Champlain oil spill cooperation.
Sec. 3004. International inventory of removal equipment and personnel.
Sec. 3005. Negotiations with Canada concerning tug escorts in Puget Sound.

TITLE IV—PREVENTION AND REMOVAL

Subtitle A—Prevention

Sec. 4101. Review of alcohol and drug abuse and other matters in issuing licenses, certificates of registry, and merchant mariners' documents.
Sec. 4102. Term of licenses, certificates of registry, and merchant mariners' documents; criminal record reviews in renewals.
Sec. 4103. Suspension and revocation of licenses, certificates of registry, and merchant mariners' documents for alcohol and drug abuse.

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Sec. 4104. Removal of master or individual in charge.
Sec. 4105. Access to National Driver Register.
Sec. 4106. Manning standards for foreign tank vessels.
Sec. 4107. Vessel traffic service systems.
Sec. 4108. Great Lakes pilotage.
Sec. 4109. Periodic gauging of plating thickness of commercial vessels.
Sec. 4110. Overfill and tank level or pressure monitoring devices.
Sec. 4111. Study on tanker navigation safety standards.
Sec. 4112. Dredge modification study.
Sec. 4113. Use of liners.
Sec. 4114. Tank vessel manning.
Sec. 4115. Establishment of double hull requirement for tank vessels.
Sec. 4116. Pilotage.
Sec. 4117. Maritime pollution prevention training program study.
Sec. 4118. Vessel communication equipment regulations.

Subtitle B—Removal

Sec. 4201. Federal removal authority.
Sec. 4202. National planning and response system.
Sec. 4203. Coast Guard vessel design.
Sec. 4204. Determination of harmful quantities of oil and hazardous substances.
Sec. 4205. Coastwise oil spill response endorsements.

Subtitle C—Penalties and Miscellaneous

Sec. 4301. Federal Water Pollution Control Act penalties.
Sec. 4302. Other penalties.
Sec. 4303. Financial responsibility civil penalties.
Sec. 4304. Deposit of certain penalties into oil spill liability trust fund.
Sec. 4305. Inspection and entry
Sec. 4306. Civil enforcement under Federal Water Pollution Control Act.

TITLE V—PRINCE WILLIAM SOUND PROVISIONS

Sec. 5001. Oil spill recovery institute.
Sec. 5002. Terminal and tanker oversight and monitoring.
Sec. 5003. Bligh Reef light.
Sec. 5004. Vessel traffic service system.
Sec. 5005. Equipment and personnel requirements under tank vessel and facility response plans.
Sec. 5006. Funding.
Sec. 5007. Limitation.

TITLE VI—MISCELLANEOUS

Sec. 6001. Savings provisions.
Sec. 6002. Annual appropriations.
Sec. 6003. Outer Banks protection.
Sec. 6004. Cooperative development of common hydrocarbon-bearing areas.

TITLE VII—OIL POLLUTION RESEARCH AND DEVELOPMENT PROGRAM

Sec. 7001. Oil pollution research and development program.

TITLE VIII—TRANS-ALASKA PIPELINE SYSTEM

Sec. 8001. Short title.

Subtitle A—Improvements to Trans-Alaska Pipeline System

Sec. 8101. Liability within the State of Alaska and cleanup efforts.
Sec. 8102. Trans-Alaska Pipeline Liability Fund.
Sec. 8103. Presidential task force.

Subtitle B—Penalties

Sec. 8201. Authority of the Secretary of the Interior to impose penalties on Outer Continental Shelf facilities.
Sec. 8202. Trans-Alaska pipeline system civil penalties.

Subtitle C—Provisions Applicable to Alaska Natives

Sec. 8301. Land conveyances.
Sec. 8302. Impact of potential spills in the Arctic Ocean on Alaska Natives.

TITLE IX—AMENDMENTS TO OIL SPILL LIABILITY TRUST FUND, ETC

Sec. 9001. Amendments to Oil Spill Liability Trust Fund.
Sec. 9002. Changes relating to other funds.

TITLE I—OIL POLLUTION LIABILITY AND COMPENSATION

33 USC 2701.

Sec. 1001. DEFINITIONS.

For the purposes of this Act, the term—

(1) "act of God" means an unanticipated grave natural disaster or other natural phenomenon of an exceptional, inevitable, and irresistible character the effects of which could not have been prevented or avoided by the exercise of due care or foresight;

(2) "barrel" means 42 United States gallons at 60 degrees fahrenheit;

(3) "claim" means a request, made in writing for a sum certain, for compensation for damages or removal costs resulting from an incident;

(4) "claimant" means any person or government who presents a claim for compensation under this title;

(5) "damages" means damages specified in section 1002(b) of this Act, and includes the cost of assessing these damages;

(6) "deepwater port" is a facility licensed under the Deepwater Port Act of 1974 (33 U.S.C. 1501-1524);

(7) "discharge" means any emission (other than natural seepage), intentional or unintentional, and includes, but is not limited to, spilling, leaking, pumping, pouring, emitting, emptying, or dumping;

(8) "exclusive economic zone" means the zone established by Presidential Proclamation Numbered 5030, dated March 10, 1983, including the ocean waters of the areas referred to as "eastern special areas" in Article 3(1) of the Agreement between the United States of America and the Union of Soviet Socialist Republics on the Maritime Boundary, signed June 1, 1990;

(9) "facility" means any structure, group of structures, equipment, or device (other than a vessel) which is used for one or more of the following purposes: exploring for, drilling for, producing, storing, handling, transferring, processing, or transporting oil. This term includes any motor vehicle, rolling stock, or pipeline used for one or more of these purposes;

(10) "foreign offshore unit" means a facility which is located, in whole or in part, in the territorial sea or on the continental shelf of a foreign country and which is or was used for one or more of the following purposes: exploring for, drilling for, producing, storing, handling, transferring, processing, or transporting oil produced from the seabed beneath the foreign country's territorial sea or from the foreign country's continental shelf;

(11) "Fund" means the Oil Spill Liability Trust Fund, established by section 9509 of the Internal Revenue Code of 1986 (26 U.S.C. 9509);

(12) "gross ton" has the meaning given that term by the Secretary under part J of title 46, United States Code;

(13) "guarantor" means any person, other than the responsible party, who provides evidence of financial responsibility for a responsible party under this Act;

(14) "incident" means any occurrence or series of occurrences having the same origin, involving one or more vessels, facilities, or any combination thereof, resulting in the discharge or substantial threat of discharge of oil;

(15) "Indian tribe" means any Indian tribe, band, nation, or other organized group or community, but not including any Alaska Native regional or village corporation, which is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians and has governmental authority over lands belonging to or controlled by the tribe;

(16) "lessee" means a person holding a leasehold interest in an oil or gas lease on lands beneath navigable waters (as that term is defined in section 2(a) of the Submerged Lands Act (43 U.S.C. 1301(a))) or on submerged lands of the Outer Continental Shelf, granted or maintained under applicable State law or the Outer Continental Shelf Lands Act (43 U.S.C. 1331 et seq.);

(17) "liable" or "liability" shall be construed to be the standard of liability which obtains under section 311 of the Federal Water Pollution Control Act (33 U.S.C. 1321);

(18) "mobile offshore drilling unit" means a vessel (other than a self-elevating lift vessel) capable of use as an offshore facility;

(19) "National Contingency Plan" means the National Contingency Plan prepared and published under section 311(d) of the Federal Water Pollution Control Act, as amended by this Act, or revised under section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. 9605);

(20) "natural resources" includes land, fish, wildlife, biota, air, water, ground water, drinking water supplies, and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the United States (including the resources of the exclusive economic zone), any State or local government or Indian tribe, or any foreign government;

(21) "navigable waters" means the waters of the United States, including the territorial sea;

(22) "offshore facility" means any facility of any kind located in, on, or under any of the navigable waters of the United States, and any facility of any kind which is subject to the jurisdiction of the United States and is located in, on, or under any other waters, other than a vessel or a public vessel;

(23) "oil" means oil of any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil, but does not include petroleum, including crude oil or any fraction thereof, which is specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. 9601) and which is subject to the provisions of that Act;

(24) "onshore facility" means any facility (including, but not limited to, motor vehicles and rolling stock) of any kind located in, on, or under, any land within the United States other than submerged land;

(25) the term "Outer Continental Shelf facility" means an offshore facility which is located, in whole or in part, on the Outer Continental Shelf and is or was used for one or more of the following purposes: exploring for, drilling for, producing, storing, handling, transferring, processing, or transporting oil produced from the Outer Continental Shelf;

(26) "owner or operator" means (A) in the case of a vessel, any person owning, operating, or chartering by demise, the vessel, and (B) in the case of an onshore facility, and an offshore facility, any person owning or operating such onshore facility or offshore facility, and (C) in the case of any abandoned offshore facility, the person who owned or operated such facility immediately prior to such abandonment;

(27) "person" means an individual, corporation, partnership, association, State, municipality, commission, or political subdivision of a State, or any interstate body;

(28) "permittee" means a person holding an authorization, license, or permit for geological exploration issued under section 11 of the Outer Continental Shelf Lands Act (43 U.S.C. 1340) or applicable State law;

(29) "public vessel" means a vessel owned or bareboat chartered and operated by the United States, or by a State or political subdivision thereof, or by a foreign nation, except when the vessel is engaged in commerce;

(30) "remove" or "removal" means containment and removal of oil or a hazardous substance from water and shorelines or the taking of other actions as may be necessary to minimize or mitigate damage to the public health or welfare, including, but not limited to, fish, shellfish, wildlife, and public and private property, shorelines, and beaches;

(31) "removal costs" means the costs of removal that are incurred after a discharge of oil has occurred or, in any case in which there is a substantial threat of a discharge of oil, the costs to prevent, minimize, or mitigate oil pollution from such an incident;

(32) "responsible party" means the following:

(A) VESSELS.—In the case of a vessel, any person owning, operating, or demise chartering the vessel.

(B) ONSHORE FACILITIES.—In the case of an onshore facility (other than a pipeline), any person owning or operating the facility, except a Federal agency, State, municipality, commission, or political subdivision of a State, or any interstate body, that as the owner transfers possession and right to use the property to another person by lease, assignment, or permit.

(C) OFFSHORE FACILITIES.—In the case of an offshore facility (other than a pipeline or a deepwater port licensed under the Deepwater Port Act of 1974 (33 U.S.C. 1501 et seq.)), the lessee or permittee of the area in which the facility is located or the holder of a right of use and easement granted under applicable State law or the Outer Continental Shelf Lands Act (43 U.S.C. 1301-1356) for the area in which the facility is located (if the holder is a different person than the lessee or permittee), except a Federal agency, State, municipality, commission, or political subdivision of a State, or any interstate body, that as

owner transfers possession and right to use the property to another person by lease, assignment, or permit.

(D) DEEPWATER PORTS.—In the case of a deepwater port licensed under the Deepwater Port Act of 1974 (33 U.S.C. 1501-1524), the licensee.

(E) PIPELINES.—In the case of a pipeline, any person owning or operating the pipeline.

(F) ABANDONMENT.—In the case of an abandoned vessel, onshore facility, deepwater port, pipeline, or offshore facility, the persons who would have been responsible parties immediately prior to the abandonment of the vessel or facility.

(33) "Secretary" means the Secretary of the department in which the Coast Guard is operating;

(34) "tank vessel" means a vessel that is constructed or adapted to carry, or that carries, oil or hazardous material in bulk as cargo or cargo residue, and that—

(A) is a vessel of the United States;

(B) operates on the navigable waters; or

(C) transfers oil or hazardous material in a place subject to the jurisdiction of the United States;

(35) "territorial seas" means the belt of the seas measured from the line of ordinary low water along that portion of the coast which is in direct contact with the open sea and the line marking the seaward limit of inland waters, and extending seaward a distance of 3 miles;

(36) "United States" and "State" mean the several States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the United States Virgin Islands, the Commonwealth of the Northern Marianas, and any other territory or possession of the United States; and

(37) "vessel" means every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water, other than a public vessel.

SEC. 1002. ELEMENTS OF LIABILITY.

33 USC 2702.

(a) IN GENERAL.—Notwithstanding any other provision or rule of law, and subject to the provisions of this Act, each responsible party for a vessel or a facility from which oil is discharged, or which poses the substantial threat of a discharge of oil, into or upon the navigable waters or adjoining shorelines or the exclusive economic zone is liable for the removal costs and damages specified in subsection (b) that result from such incident.

(b) COVERED REMOVAL COSTS AND DAMAGES.—

(1) REMOVAL COSTS.—The removal costs referred to in subsection (a) are—

(A) all removal costs incurred by the United States, a State, or an Indian tribe under subsection (c), (d), (e), or (l) of section 311 of the Federal Water Pollution Control Act (33 U.S.C. 1321), as amended by this Act, under the Intervention on the High Seas Act (33 U.S.C. 1471 et seq.), or under State law; and

State and local governments. Indians.

(B) any removal costs incurred by any person for acts taken by the person which are consistent with the National Contingency Plan.

(2) DAMAGES.—The damages referred to in subsection (a) are the following:

(A) NATURAL RESOURCES.—Damages for injury to, destruction of, loss of, or loss of use of, natural resources, including the reasonable costs of assessing the damage, which shall be recoverable by a United States trustee, a State trustee, an Indian tribe trustee, or a foreign trustee.

(B) REAL OR PERSONAL PROPERTY.—Damages for injury to, or economic losses resulting from destruction of, real or personal property, which shall be recoverable by a claimant who owns or leases that property.

(C) SUBSISTENCE USE.—Damages for loss of subsistence use of natural resources, which shall be recoverable by any claimant who so uses natural resources which have been injured, destroyed, or lost, without regard to the ownership or management of the resources.

(D) REVENUES.—Damages equal to the net loss of taxes, royalties, rents, fees, or net profit shares due to the injury, destruction, or loss of real property, personal property, or natural resources, which shall be recoverable by the Government of the United States, a State, or a political subdivision thereof.

(E) PROFITS AND EARNING CAPACITY.—Damages equal to the loss of profits or impairment of earning capacity due to the injury, destruction, or loss of real property, personal property, or natural resources, which shall be recoverable by any claimant.

(F) PUBLIC SERVICES.—Damages for net costs of providing increased or additional public services during or after removal activities, including protection from fire, safety, or health hazards, caused by a discharge of oil, which shall be recoverable by a State, or a political subdivision of a State.

(c) EXCLUDED DISCHARGES.—This title does not apply to any discharge—

(1) permitted by a permit issued under Federal, State, or local law;

(2) from a public vessel; or

(3) from an onshore facility which is subject to the Trans-Alaska Pipeline Authorization Act (43 U.S.C. 1651 et seq.).

(d) LIABILITY OF THIRD PARTIES.—

(1) IN GENERAL.—

(A) THIRD PARTY TREATED AS RESPONSIBLE PARTY.—Except as provided in subparagraph (B), in any case in which a responsible party establishes that a discharge or threat of a discharge and the resulting removal costs and damages were caused solely by an act or omission of one or more third parties described in section 1003(a)(3) (or solely by such an act or omission in combination with an act of God or an act of war), the third party or parties shall be treated as the responsible party or parties for purposes of determining liability under this title.

(B) SUBROGATION OF RESPONSIBLE PARTY.—If the responsible party alleges that the discharge or threat of a discharge was caused solely by an act or omission of a third party, the responsible party—

(i) in accordance with section 1013, shall pay removal costs and damages to any claimant; and

(ii) shall be entitled by subrogation to all rights of the United States Government and the claimant to recover

removal costs or damages from the third party or the Fund paid under this subsection.

(2) LIMITATION APPLIED.—

(A) OWNER OR OPERATOR OF VESSEL OR FACILITY.—If the act or omission of a third party that causes an incident occurs in connection with a vessel or facility owned or operated by the third party, the liability of the third party shall be subject to the limits provided in section 1004 as applied with respect to the vessel or facility.

(B) OTHER CASES.—In any other case, the liability of a third party or parties shall not exceed the limitation which would have been applicable to the responsible party of the vessel or facility from which the discharge actually occurred if the responsible party were liable.

SEC. 1003. DEFENSES TO LIABILITY. 33 USC 2703.

(a) COMPLETE DEFENSES.—A responsible party is not liable for removal costs or damages under section 1002 if the responsible party establishes, by a preponderance of the evidence, that the discharge or substantial threat of a discharge of oil and the resulting damages or removal costs were caused solely by—

(1) an act of God;

(2) an act of war;

(3) an act or omission of a third party, other than an employee or agent of the responsible party or a third party whose act or omission occurs in connection with any contractual relationship with the responsible party (except where the sole contractual arrangement arises in connection with carriage by a common carrier by rail), if the responsible party establishes, by a preponderance of the evidence, that the responsible party—

(A) exercised due care with respect to the oil concerned, taking into consideration the characteristics of the oil and in light of all relevant facts and circumstances; and

(B) took precautions against foreseeable acts or omissions of any such third party and the foreseeable consequences of those acts or omissions; or

(4) any combination of paragraphs (1), (2), and (3).

(b) DEFENSES AS TO PARTICULAR CLAIMANTS.—A responsible party is not liable under section 1002 to a claimant, to the extent that the incident is caused by the gross negligence or willful misconduct of the claimant.

(c) LIMITATION ON COMPLETE DEFENSE.—Subsection (a) does not apply with respect to a responsible party who fails or refuses—

(1) to report the incident as required by law if the responsible party knows or has reason to know of the incident;

(2) to provide all reasonable cooperation and assistance requested by a responsible official in connection with removal activities; or

(3) without sufficient cause, to comply with an order issued under subsection (c) or (e) of section 311 of the Federal Water Pollution Control Act (33 U.S.C. 1321), as amended by this Act, or the Intervention on the High Seas Act (33 U.S.C. 1471 et seq.).

SEC. 1004. LIMITS ON LIABILITY. 33 USC 2704.

(a) GENERAL RULE.—Except as otherwise provided in this section, the total of the liability of a responsible party under section 1002

and any removal costs incurred by, or on behalf of, the responsible party, with respect to each incident shall not exceed—

(1) for a tank vessel, the greater of—

(A) $1,200 per gross ton; or

(B)(i) in the case of a vessel greater than 3,000 gross tons, $10,000,000; or

(ii) in the case of a vessel of 3,000 gross tons or less, $2,000,000;

(2) for any other vessel, $600 per gross ton or $500,000, whichever is greater;

(3) for an offshore facility except a deepwater port, the total of all removal costs plus $75,000,000; and

(4) for any onshore facility and a deepwater port, $350,000,000.

(b) DIVISION OF LIABILITY FOR MOBILE OFFSHORE DRILLING UNITS.—

(1) TREATED FIRST AS TANK VESSEL.—For purposes of determining the responsible party and applying this Act and except as provided in paragraph (2), a mobile offshore drilling unit which is being used as an offshore facility is deemed to be a tank vessel with respect to the discharge, or the substantial threat of a discharge, of oil on or above the surface of the water.

(2) TREATED AS FACILITY FOR EXCESS LIABILITY.—To the extent that removal costs and damages from any incident described in paragraph (1) exceed the amount for which a responsible party is liable (as that amount may be limited under subsection (a)(1)), the mobile offshore drilling unit is deemed to be an offshore facility. For purposes of applying subsection (a)(3), the amount specified in that subsection shall be reduced by the amount for which the responsible party is liable under paragraph (1).

(c) EXCEPTIONS.—

(1) ACTS OF RESPONSIBLE PARTY.—Subsection (a) does not apply if the incident was proximately caused by—

(A) gross negligence or willful misconduct of, or

(B) the violation of an applicable Federal safety, construction, or operating regulation by,

the responsible party, an agent or employee of the responsible party, or a person acting pursuant to a contractual relationship with the responsible party (except where the sole contractual arrangement arises in connection with carriage by a common carrier by rail).

(2) FAILURE OR REFUSAL OF RESPONSIBLE PARTY.—Subsection (a) does not apply if the responsible party fails or refuses—

(A) to report the incident as required by law and the responsible party knows or has reason to know of the incident;

(B) to provide all reasonable cooperation and assistance requested by a responsible official in connection with removal activities; or

(C) without sufficient cause, to comply with an order issued under subsection (c) or (e) of section 311 of the Federal Water Pollution Control Act (33 U.S.C. 1321), as amended by this Act, or the Intervention on the High Seas Act (33 U.S.C. 1471 et seq.).

(3) OCS FACILITY OR VESSEL.—Notwithstanding the limitations established under subsection (a) and the defenses of section 1003, all removal costs incurred by the United States Government or any State or local official or agency in connection with a discharge or substantial threat of a discharge of oil from any

Outer Continental Shelf facility or a vessel carrying oil as cargo from such a facility shall be borne by the owner or operator of such facility or vessel.

(d) ADJUSTING LIMITS OF LIABILITY.—

(1) ONSHORE FACILITIES.—Subject to paragraph (2), the President may establish by regulation, with respect to any class or category of onshore facility, a limit of liability under this section of less than $350,000,000, but not less than $8,000,000, taking into account size, storage capacity, oil throughput, proximity to sensitive areas, type of oil handled, history of discharges, and other factors relevant to risks posed by the class or category of facility.

(2) DEEPWATER PORTS AND ASSOCIATED VESSELS.—

(A) STUDY.—The Secretary shall conduct a study of the relative operational and environmental risks posed by the transportation of oil by vessel to deepwater ports (as defined in section 3 of the Deepwater Port Act of 1974 (33 U.S.C. 1502)) versus the transportation of oil by vessel to other ports. The study shall include a review and analysis of offshore lightering practices used in connection with that transportation, an analysis of the volume of oil transported by vessel using those practices, and an analysis of the frequency and volume of oil discharges which occur in connection with the use of those practices.

(B) REPORT.—Not later than 1 year after the date of the enactment of this Act, the Secretary shall submit to the Congress a report on the results of the study conducted under subparagraph (A).

(C) RULEMAKING PROCEEDING.—If the Secretary determines, based on the results of the study conducted under this subparagraph (A), that the use of deepwater ports in connection with the transportation of oil by vessel results in a lower operational or environmental risk than the use of other ports, the Secretary shall initiate, not later than the 180th day following the date of submission of the report to the Congress under subparagraph (B), a rulemaking proceeding to lower the limits of liability under this section for deepwater ports as the Secretary determines appropriate. The Secretary may establish a limit of liability of less than $350,000,000, but not less than $50,000,000, in accordance with paragraph (1).

(3) PERIODIC REPORTS.—The President shall, within 6 months after the date of the enactment of this Act, and from time to time thereafter, report to the Congress on the desirability of adjusting the limits of liability specified in subsection (a). President of U.S.

(4) ADJUSTMENT TO REFLECT CONSUMER PRICE INDEX.—The President shall, by regulations issued not less often than every 3 years, adjust the limits of liability specified in subsection (a) to reflect significant increases in the Consumer Price Index. Regulations.

SEC. 1005. INTEREST. 33 USC 2705.

(a) GENERAL RULE.—The responsible party or the responsible party's guarantor is liable to a claimant for interest on the amount paid in satisfaction of a claim under this Act for the period described in subsection (b).

(b) PERIOD.—

(1) IN GENERAL.—Except as provided in paragraph (2), the period for which interest shall be paid is the period beginning on the 30th day following the date on which the claim is presented to the responsible party or guarantor and ending on the date on which the claim is paid.

(2) EXCLUSION OF PERIOD DUE TO OFFER BY GUARANTOR.—If the guarantor offers to the claimant an amount equal to or greater than that finally paid in satisfaction of the claim, the period described in paragraph (1) does not include the period beginning on the date the offer is made and ending on the date the offer is accepted. If the offer is made within 60 days after the date on which the claim is presented under section 1013(a), the period described in paragraph (1) does not include any period before the offer is accepted.

(3) EXCLUSION OF PERIODS IN INTERESTS OF JUSTICE.—If in any period a claimant is not paid due to reasons beyond the control of the responsible party or because it would not serve the interests of justice, no interest shall accrue under this section during that period.

(4) CALCULATION OF INTEREST.—The interest paid under this section shall be calculated at the average of the highest rate for commercial and finance company paper of maturities of 180 days or less obtaining on each of the days included within the period for which interest must be paid to the claimant, as published in the Federal Reserve Bulletin.

(5) INTEREST NOT SUBJECT TO LIABILITY LIMITS.—

(A) IN GENERAL.—Interest (including prejudgment interest) under this paragraph is in addition to damages and removal costs for which claims may be asserted under section 1002 and shall be paid without regard to any limitation of liability under section 1004.

(B) PAYMENT BY GUARANTOR.—The payment of interest under this subsection by a guarantor is subject to section 1016(g).

33 USC 2706.

SEC. 1006. NATURAL RESOURCES.

(a) LIABILITY.—In the case of natural resource damages under section 1002(b)(2)(A), liability shall be—

(1) to the United States Government for natural resources belonging to, managed by, controlled by, or appertaining to the United States;

State and local governments.

(2) to any State for natural resources belonging to, managed by, controlled by, or appertaining to such State or political subdivision thereof;

Indians.

(3) to any Indian tribe for natural resources belonging to, managed by, controlled by, or appertaining to such Indian tribe; and

(4) in any case in which section 1007 applies, to the government of a foreign country for natural resources belonging to, managed by, controlled by, or appertaining to such country.

(b) DESIGNATION OF TRUSTEES.—

President of U.S. Claims.

(1) IN GENERAL.—The President, or the authorized representative of any State, Indian tribe, or foreign government, shall act on behalf of the public, Indian tribe, or foreign country as trustee of natural resources to present a claim for and to recover damages to the natural resources.

(2) FEDERAL TRUSTEES.—The President shall designate the Federal officials who shall act on behalf of the public as trustees for natural resources under this Act.

(3) STATE TRUSTEES.—The Governor of each State shall designate State and local officials who may act on behalf of the public as trustee for natural resources under this Act and shall notify the President of the designation.

(4) INDIAN TRIBE TRUSTEES.—The governing body of any Indian tribe shall designate tribal officials who may act on behalf of the tribe or its members as trustee for natural resources under this Act and shall notify the President of the designation.

(5) FOREIGN TRUSTEES.—The head of any foreign government may designate the trustee who shall act on behalf of that government as trustee for natural resources under this Act.

(c) FUNCTIONS OF TRUSTEES.—

(1) FEDERAL TRUSTEES.—The Federal officials designated under subsection (b)(2)—

(A) shall assess natural resource damages under section 1002(b)(2)(A) for the natural resources under their trusteeship;

(B) may, upon request of and reimbursement from a State or Indian tribe and at the Federal officials' discretion, assess damages for the natural resources under the State's or tribe's trusteeship; and

(C) shall develop and implement a plan for the restoration, rehabilitation, replacement, or acquisition of the equivalent, of the natural resources under their trusteeship.

(2) STATE TRUSTEES.—The State and local officials designated under subsection (b)(3)—

(A) shall assess natural resource damages under section 1002(b)(2)(A) for the purposes of this Act for the natural resources under their trusteeship; and

(B) shall develop and implement a plan for the restoration, rehabilitation, replacement, or acquisition of the equivalent, of the natural resources under their trusteeship.

(3) INDIAN TRIBE TRUSTEES.—The tribal officials designated under subsection (b)(4)—

(A) shall assess natural resource damages under section 1002(b)(2)(A) for the purposes of this Act for the natural resources under their trusteeship; and

(B) shall develop and implement a plan for the restoration, rehabilitation, replacement, or acquisition of the equivalent, of the natural resources under their trusteeship.

(4) FOREIGN TRUSTEES.—The trustees designated under subsection (b)(5)—

(A) shall assess natural resource damages under section 1002(b)(2)(A) for the purposes of this Act for the natural resources under their trusteeship; and

(B) shall develop and implement a plan for the restoration, rehabilitation, replacement, or acquisition of the equivalent, of the natural resources under their trusteeship.

(5) NOTICE AND OPPORTUNITY TO BE HEARD.—Plans shall be developed and implemented under this section only after ade-

quate public notice, opportunity for a hearing, and consideration of all public comment.

(d) MEASURE OF DAMAGES.—

(1) IN GENERAL.—The measure of natural resource damages under section 1002(b)(2)(A) is—

(A) the cost of restoring, rehabilitating, replacing, or acquiring the equivalent of, the damaged natural resources;

(B) the diminution in value of those natural resources pending restoration; plus

(C) the reasonable cost of assessing those damages.

(2) DETERMINE COSTS WITH RESPECT TO PLANS.—Costs shall be determined under paragraph (1) with respect to plans adopted under subsection (c).

(3) NO DOUBLE RECOVERY.—There shall be no double recovery under this Act for natural resource damages, including with respect to the costs of damage assessment or restoration, rehabilitation, replacement, or acquisition for the same incident and natural resource.

President of U.S.

(e) DAMAGE ASSESSMENT REGULATIONS.—

(1) REGULATIONS.—The President, acting through the Under Secretary of Commerce for Oceans and Atmosphere and in consultation with the Administrator of the Environmental Protection Agency, the Director of the United States Fish and Wildlife Service, and the heads of other affected agencies, not later than 2 years after the date of the enactment of this Act, shall promulgate regulations for the assessment of natural resource damages under section 1002(b)(2)(A) resulting from a discharge of oil for the purpose of this Act.

(2) REBUTTABLE PRESUMPTION.—Any determination or assessment of damages to natural resources for the purposes of this Act made under subsection (d) by a Federal, State, or Indian trustee in accordance with the regulations promulgated under paragraph (1) shall have the force and effect of a rebuttable presumption on behalf of the trustee in any administrative or judicial proceeding under this Act.

(f) USE OF RECOVERED SUMS.—Sums recovered under this Act by a Federal, State, Indian, or foreign trustee for natural resource damages under section 1002(b)(2)(A) shall be retained by the trustee in a revolving trust account, without further appropriation, for use only to reimburse or pay costs incurred by the trustee under subsection (c) with respect to the damaged natural resources. Any amounts in excess of those required for these reimbursements and costs shall be deposited in the Fund.

(g) COMPLIANCE.—Review of actions by any Federal official where there is alleged to be a failure of that official to perform a duty under this section that is not discretionary with that official may be had by any person in the district court in which the person resides or in which the alleged damage to natural resources occurred. The court may award costs of litigation (including reasonable attorney and expert witness fees) to any prevailing or substantially prevailing party. Nothing in this subsection shall restrict any right which any person may have to seek relief under any other provision of law.

33 USC 2707.

SEC. 1007. RECOVERY BY FOREIGN CLAIMANTS.

(a) REQUIRED SHOWING BY FOREIGN CLAIMANTS.—

(1) IN GENERAL.—In addition to satisfying the other requirements of this Act, to recover removal costs or damages resulting from an incident a foreign claimant shall demonstrate that—

(A) the claimant has not been otherwise compensated for the removal costs or damages; and

(B) recovery is authorized by a treaty or executive agreement between the United States and the claimant's country, or the Secretary of State, in consultation with the Attorney General and other appropriate officials, has certified that the claimant's country provides a comparable remedy for United States claimants.

(2) EXCEPTIONS.—Paragraph (1)(B) shall not apply with respect to recovery by a resident of Canada in the case of an incident described in subsection (b)(4). Canada.

(b) DISCHARGES IN FOREIGN COUNTRIES.—A foreign claimant may make a claim for removal costs and damages resulting from a discharge, or substantial threat of a discharge, of oil in or on the territorial sea, internal waters, or adjacent shoreline of a foreign country, only if the discharge is from—

(1) an Outer Continental Shelf facility or a deepwater port;

(2) a vessel in the navigable waters;

(3) a vessel carrying oil as cargo between 2 places in the United States; or

(4) a tanker that received the oil at the terminal of the pipeline constructed under the Trans-Alaska Pipeline Authorization Act (43 U.S.C. 1651 et seq.), for transportation to a place in the United States, and the discharge or threat occurs prior to delivery of the oil to that place.

(c) FOREIGN CLAIMANT DEFINED.—In this section, the term "foreign claimant" means—

(1) a person residing in a foreign country;

(2) the government of a foreign country; and

(3) an agency or political subdivision of a foreign country.

SEC. 1008. RECOVERY BY RESPONSIBLE PARTY. 33 USC 2708.

(a) IN GENERAL.—The responsible party for a vessel or facility from which oil is discharged, or which poses the substantial threat of a discharge of oil, may assert a claim for removal costs and damages under section 1013 only if the responsible party demonstrates that—

(1) the responsible party is entitled to a defense to liability under section 1003; or

(2) the responsible party is entitled to a limitation of liability under section 1004.

(b) EXTENT OF RECOVERY.—A responsible party who is entitled to a limitation of liability may assert a claim under section 1013 only to the extent that the sum of the removal costs and damages incurred by the responsible party plus the amounts paid by the responsible party, or by the guarantor on behalf of the responsible party, for claims asserted under section 1013 exceeds the amount to which the total of the liability under section 1002 and removal costs and damages incurred by, or on behalf of, the responsible party is limited under section 1004.

SEC. 1009. CONTRIBUTION. 33 USC 2709.

A person may bring a civil action for contribution against any other person who is liable or potentially liable under this Act or

another law. The action shall be brought in accordance with section 1017.

33 USC 2710.

SEC. 1010. INDEMNIFICATION AGREEMENTS.

(a) AGREEMENTS NOT PROHIBITED.—Nothing in this Act prohibits any agreement to insure, hold harmless, or indemnify a party to such agreement for any liability under this Act.

(b) LIABILITY NOT TRANSFERRED.—No indemnification, hold harmless, or similar agreement or conveyance shall be effective to transfer liability imposed under this Act from a responsible party or from any person who may be liable for an incident under this Act to any other person.

(c) RELATIONSHIP TO OTHER CAUSES OF ACTION.—Nothing in this Act, including the provisions of subsection (b), bars a cause of action that a responsible party subject to liability under this Act, or a guarantor, has or would have, by reason of subrogation or otherwise, against any person.

President of U.S. State and local governments. 33 USC 2711.

SEC. 1011. CONSULTATION ON REMOVAL ACTIONS.

The President shall consult with the affected trustees designated under section 1006 on the appropriate removal action to be taken in connection with any discharge of oil. For the purposes of the National Contingency Plan, removal with respect to any discharge shall be considered completed when so determined by the President in consultation with the Governor or Governors of the affected States. However, this determination shall not preclude additional removal actions under applicable State law.

President of U.S. 33 USC 2712.

SEC. 1012. USES OF THE FUND.

(a) USES GENERALLY.—The Fund shall be available to the President for—

(1) the payment of removal costs, including the costs of monitoring removal actions, determined by the President to be consistent with the National Contingency Plan—

(A) by Federal authorities; or

(B) by a Governor or designated State official under subsection (d);

(2) the payment of costs incurred by Federal, State, or Indian tribe trustees in carrying out their functions under section 1006 for assessing natural resource damages and for developing and implementing plans for the restoration, rehabilitation, replacement, or acquisition of the equivalent of damaged resources determined by the President to be consistent with the National Contingency Plan;

(3) the payment of removal costs determined by the President to be consistent with the National Contingency Plan as a result of, and damages resulting from, a discharge, or a substantial threat of a discharge, of oil from a foreign offshore unit;

(4) the payment of claims in accordance with section 1013 for uncompensated removal costs determined by the President to be consistent with the National Contingency Plan or uncompensated damages;

(5) the payment of Federal administrative, operational, and personnel costs and expenses reasonably necessary for and incidental to the implementation, administration, and enforcement of this Act (including, but not limited to, sections 1004(d)(2), 1006(e), 4107, 4110, 4111, 4112, 4117, 5006, 8103, and

title VII) and subsections (b), (c), (d), (j), and (l) of section 311 of the Federal Water Pollution Control Act (33 U.S.C. 1321), as amended by this Act, with respect to prevention, removal, and enforcement related to oil discharges, provided that—

(A) not more than $25,000,000 in each fiscal year shall be available to the Secretary for operating expenses incurred by the Coast Guard; Uniformed services.

(B) not more than $30,000,000 each year through the end of fiscal year 1992 shall be available to establish the National Response System under section 311(j) of the Federal Water Pollution Control Act, as amended by this Act, including the purchase and prepositioning of oil spill removal equipment; and

(C) not more than $27,250,000 in each fiscal year shall be available to carry out title VII of this Act.

(b) DEFENSE TO LIABILITY FOR FUND.—The Fund shall not be available to pay any claim for removal costs or damages to a particular claimant, to the extent that the incident, removal costs, or damages are caused by the gross negligence or willful misconduct of that claimant.

(c) OBLIGATION OF FUND BY FEDERAL OFFICIALS.—The President may promulgate regulations designating one or more Federal officials who may obligate money in accordance with subsection (a).

(d) ACCESS TO FUND BY STATE OFFICIALS.—

(1) IMMEDIATE REMOVAL.—In accordance with regulations promulgated under this section, the President, upon the request of the Governor of a State or pursuant to an agreement with a State under paragraph (2), may obligate the Fund for payment in an amount not to exceed $250,000 for removal costs consistent with the National Contingency Plan required for the immediate removal of a discharge, or the mitigation or prevention of a substantial threat of a discharge, of oil.

(2) AGREEMENTS.—

(A) IN GENERAL.—The President shall enter into an agreement with the Governor of any interested State to establish procedures under which the Governor or a designated State official may receive payments from the Fund for removal costs pursuant to paragraph (1).

(B) TERMS.—Agreements under this paragraph—

(i) may include such terms and conditions as may be agreed upon by the President and the Governor of a State;

(ii) shall provide for political subdivisions of the State to receive payments for reasonable removal costs; and

(iii) may authorize advance payments from the Fund to facilitate removal efforts.

(e) REGULATIONS.—The President shall—

(1) not later than 6 months after the date of the enactment of this Act, publish proposed regulations detailing the manner in which the authority to obligate the Fund and to enter into agreements under this subsection shall be exercised; and

(2) not later than 3 months after the close of the comment period for such proposed regulations, promulgate final regulations for that purpose.

(f) RIGHTS OF SUBROGATION.—Payment of any claim or obligation by the Fund under this Act shall be subject to the United States

Government acquiring by subrogation all rights of the claimant or State to recover from the responsible party.

(g) AUDITS.—The Comptroller General shall audit all payments, obligations, reimbursements, and other uses of the Fund, to assure that the Fund is being properly administered and that claims are being appropriately and expeditiously considered. The Comptroller General shall submit to the Congress an interim report one year after the date of the enactment of this Act. The Comptroller General shall thereafter audit the Fund as is appropriate. Each Federal agency shall cooperate with the Comptroller General in carrying out this subsection.

Reports.

(h) PERIOD OF LIMITATIONS FOR CLAIMS.—

(1) REMOVAL COSTS.—No claim may be presented under this title for recovery of removal costs for an incident unless the claim is presented within 6 years after the date of completion of all removal actions for that incident.

(2) DAMAGES.—No claim may be presented under this section for recovery of damages unless the claim is presented within 3 years after the date on which the injury and its connection with the discharge in question were reasonably discoverable with the exercise of due care, or in the case of natural resource damages under section 1002(b)(2)(A), if later, the date of completion of the natural resources damage assessment under section 1006(e).

(3) MINORS AND INCOMPETENTS.—The time limitations contained in this subsection shall not begin to run—

(A) against a minor until the earlier of the date when such minor reaches 18 years of age or the date on which a legal representative is duly appointed for the minor, or

(B) against an incompetent person until the earlier of the date on which such incompetent's incompetency ends or the date on which a legal representative is duly appointed for the incompetent.

(i) LIMITATION ON PAYMENT FOR SAME COSTS.—In any case in which the President has paid an amount from the Fund for any removal costs or damages specified under subsection (a), no other claim may be paid from the Fund for the same removal costs or damages.

(j) OBLIGATION IN ACCORDANCE WITH PLAN.—

(1) IN GENERAL.—Except as provided in paragraph (2), amounts may be obligated from the Fund for the restoration, rehabilitation, replacement, or acquisition of natural resources only in accordance with a plan adopted under section 1006(c).

(2) EXCEPTION.—Paragraph (1) shall not apply in a situation requiring action to avoid irreversible loss of natural resources or to prevent or reduce any continuing danger to natural resources or similar need for emergency action.

(k) PREFERENCE FOR PRIVATE PERSONS IN AREA AFFECTED BY DISCHARGE.—

(1) IN GENERAL.—In the expenditure of Federal funds for removal of oil, including for distribution of supplies, construction, and other reasonable and appropriate activities, under a contract or agreement with a private person, preference shall be given, to the extent feasible and practicable, to private persons residing or doing business primarily in the area affected by the discharge of oil.

(2) LIMITATION.—This subsection shall not be considered to restrict the use of Department of Defense resources.

SEC. 1013. CLAIMS PROCEDURE. 33 USC 2713.

(a) PRESENTATION.—Except as provided in subsection (b), all claims for removal costs or damages shall be presented first to the responsible party or guarantor of the source designated under section 1014(a).

(b) PRESENTATION TO FUND.—

(1) IN GENERAL.—Claims for removal costs or damages may be presented first to the Fund—

(A) if the President has advertised or otherwise notified claimants in accordance with section 1014(c);

(B) by a responsible party who may assert a claim under section 1008;

(C) by the Governor of a State for removal costs incurred by that State; or

(D) by a United States claimant in a case where a foreign offshore unit has discharged oil causing damage for which the Fund is liable under section 1012(a).

(2) LIMITATION ON PRESENTING CLAIM.—No claim of a person against the Fund may be approved or certified during the pendency of an action by the person in court to recover costs which are the subject of the claim.

(c) ELECTION.—If a claim is presented in accordance with subsection (a) and—

(1) each person to whom the claim is presented denies all liability for the claim, or

(2) the claim is not settled by any person by payment within 90 days after the date upon which (A) the claim was presented, or (B) advertising was begun pursuant to section 1014(b), whichever is later,

the claimant may elect to commence an action in court against the responsible party or guarantor or to present the claim to the Fund.

(d) UNCOMPENSATED DAMAGES.—If a claim is presented in accordance with this section and full and adequate compensation is unavailable, a claim for the uncompensated damages and removal costs may be presented to the Fund.

(e) PROCEDURE FOR CLAIMS AGAINST FUND.—The President shall promulgate, and may from time to time amend, regulations for the presentation, filing, processing, settlement, and adjudication of claims under this Act against the Fund. President of U.S. Regulations.

SEC. 1014. DESIGNATION OF SOURCE AND ADVERTISEMENT. President of U.S. 33 USC 2714.

(a) DESIGNATION OF SOURCE AND NOTIFICATION.—When the President receives information of an incident, the President shall, where possible and appropriate, designate the source or sources of the discharge or threat. If a designated source is a vessel or a facility, the President shall immediately notify the responsible party and the guarantor, if known, of that designation.

(b) ADVERTISEMENT BY RESPONSIBLE PARTY OR GUARANTOR.—If a responsible party or guarantor fails to inform the President, within 5 days after receiving notification of a designation under subsection (a), of the party's or the guarantor's denial of the designation, such party or guarantor shall advertise the designation and the procedures by which claims may be presented, in accordance with regulations promulgated by the President. Advertisement under the preceding sentence shall begin no later than 15 days after the date of the designation made under subsection (a). If advertisement is not otherwise made in accordance with this subsection, the President

shall promptly and at the expense of the responsible party or the guarantor involved, advertise the designation and the procedures by which claims may be presented to the responsible party or guarantor. Advertisement under this subsection shall continue for a period of no less than 30 days.

(c) ADVERTISEMENT BY PRESIDENT.—If—

(1) the responsible party and the guarantor both deny a designation within 5 days after receiving notification of a designation under subsection (a),

(2) the source of the discharge or threat was a public vessel, or

(3) the President is unable to designate the source or sources of the discharge or threat under subsection (a),

the President shall advertise or otherwise notify potential claimants of the procedures by which claims may be presented to the Fund.

33 USC 2715.

SEC. 1015. SUBROGATION.

(a) IN GENERAL.—Any person, including the Fund, who pays compensation pursuant to this Act to any claimant for removal costs or damages shall be subrogated to all rights, claims, and causes of action that the claimant has under any other law.

(b) ACTIONS ON BEHALF OF FUND.—At the request of the Secretary, the Attorney General shall commence an action on behalf of the Fund to recover any compensation paid by the Fund to any claimant pursuant to this Act, and all costs incurred by the Fund by reason of the claim, including interest (including prejudgment interest), administrative and adjudicative costs, and attorney's fees. Such an action may be commenced against any responsible party or (subject to section 1016) guarantor, or against any other person who is liable, pursuant to any law, to the compensated claimant or to the Fund, for the cost or damages for which the compensation was paid. Such an action shall be commenced against the responsible foreign government or other responsible party to recover any removal costs or damages paid from the Fund as the result of the discharge, or substantial threat of discharge, of oil from a foreign offshore unit.

33 USC 2716.

SEC. 1016. FINANCIAL RESPONSIBILITY.

(a) REQUIREMENT.—The responsible party for—

(1) any vessel over 300 gross tons (except a non-self-propelled vessel that does not carry oil as cargo or fuel) using any place subject to the jurisdiction of the United States; or

(2) any vessel using the waters of the exclusive economic zone to transship or lighter oil destined for a place subject to the jurisdiction of the United States;

shall establish and maintain, in accordance with regulations promulgated by the Secretary, evidence of financial responsibility sufficient to meet the maximum amount of liability to which, in the case of a tank vessel, the responsible party could be subject under section 1004 (a)(1) or (d) of this Act, or to which, in the case of any other vessel, the responsible party could be subjected under section 1004 (a)(2) or (d), in a case where the responsible party would be entitled to limit liability under that section. If the responsible party owns or operates more than one vessel, evidence of financial responsibility need be established only to meet the amount of the maximum liability applicable to the vessel having the greatest maximum liability.

(b) SANCTIONS.—

(1) WITHHOLDING CLEARANCE.—The Secretary of the Treasury shall withhold or revoke the clearance required by section 4197 of the Revised Statutes of the United States of any vessel subject to this section that does not have the evidence of financial responsibility required for the vessel under this section.

(2) DENYING ENTRY TO OR DETAINING VESSELS.—The Secretary may—

(A) deny entry to any vessel to any place in the United States, or to the navigable waters, or

(B) detain at the place,

any vessel that, upon request, does not produce the evidence of financial responsibility required for the vessel under this section.

(3) SEIZURE OF VESSEL.—Any vessel subject to the requirements of this section which is found in the navigable waters without the necessary evidence of financial responsibility for the vessel shall be subject to seizure by and forfeiture to the United States.

(c) OFFSHORE FACILITIES.—

(1) IN GENERAL.—Except as provided in paragraph (2), each responsible party with respect to an offshore facility shall establish and maintain evidence of financial responsibility of $150,000,000 to meet the amount of liability to which the responsible party could be subjected under section 1004(a) in a case in which the responsible party would be entitled to limit liability under that section. In a case in which a person is the responsible party for more than one facility subject to this subsection, evidence of financial responsibility need be established only to meet the maximum liability applicable to the facility having the greatest maximum liability.

(2) DEEPWATER PORTS.—Each responsible party with respect to a deepwater port shall establish and maintain evidence of financial responsibility sufficient to meet the maximum amount of liability to which the responsible party could be subjected under section 1004(a) of this Act in a case where the responsible party would be entitled to limit liability under that section. If the Secretary exercises the authority under section 1004(d)(2) to lower the limit of liability for deepwater ports, the responsible party shall establish and maintain evidence of financial responsibility sufficient to meet the maximum amount of liability so established. In a case in which a person is the responsible party for more than one deepwater port, evidence of financial responsibility need be established only to meet the maximum liability applicable to the deepwater port having the greatest maximum liability.

(e) METHODS OF FINANCIAL RESPONSIBILITY.—Financial responsibility under this section may be established by any one, or by any combination, of the following methods which the Secretary (in the case of a vessel) or the President (in the case of a facility) determines to be acceptable: evidence of insurance, surety bond, guarantee, letter of credit, qualification as a self-insurer, or other evidence of financial responsibility. Any bond filed shall be issued by a bonding company authorized to do business in the United States. In promulgating requirements under this section, the Secretary or the President, as appropriate, may specify policy or other contractual terms, conditions, or defenses which are necessary, or which are unaccept-

able, in establishing evidence of financial responsibility to effectuate the purposes of this Act.

(f) CLAIMS AGAINST GUARANTOR.—Any claim for which liability may be established under section 1002 may be asserted directly against any guarantor providing evidence of financial responsibility for a responsible party liable under that section for removal costs and damages to which the claim pertains. In defending against such a claim, the guarantor may invoke (1) all rights and defenses which would be available to the responsible party under this Act, (2) any defense authorized under subsection (e), and (3) the defense that the incident was caused by the willful misconduct of the responsible party. The guarantor may not invoke any other defense that might be available in proceedings brought by the responsible party against the guarantor.

(g) LIMITATION ON GUARANTOR'S LIABILITY.—Nothing in this Act shall impose liability with respect to an incident on any guarantor for damages or removal costs which exceed, in the aggregate, the amount of financial responsibility required under this Act which that guarantor has provided for a responsible party.

(h) CONTINUATION OF REGULATIONS.—Any regulation relating to financial responsibility, which has been issued pursuant to any provision of law repealed or superseded by this Act, and which is in effect on the date immediately preceding the effective date of this Act, is deemed and shall be construed to be a regulation issued pursuant to this section. Such a regulation shall remain in full force and effect unless and until superseded by a new regulation issued under this section.

(i) UNIFIED CERTIFICATE.—The Secretary may issue a single unified certificate of financial responsibility for purposes of this Act and any other law.

33 USC 2717.

SEC. 1017. LITIGATION, JURISDICTION, AND VENUE.

(a) REVIEW OF REGULATIONS.—Review of any regulation promulgated under this Act may be had upon application by any interested person only in the Circuit Court of Appeals of the United States for the District of Columbia. Any such application shall be made within 90 days from the date of promulgation of such regulations. Any matter with respect to which review could have been obtained under this subsection shall not be subject to judicial review in any civil or criminal proceeding for enforcement or to obtain damages or recovery of response costs.

(b) JURISDICTION.—Except as provided in subsections (a) and (c), the United States district courts shall have exclusive original jurisdiction over all controversies arising under this Act, without regard to the citizenship of the parties or the amount in controversy. Venue shall lie in any district in which the discharge or injury or damages occurred, or in which the defendant resides, may be found, has its principal office, or has appointed an agent for service of process. For the purposes of this section, the Fund shall reside in the District of Columbia.

(c) STATE COURT JURISDICTION.—A State trial court of competent jurisdiction over claims for removal costs or damages, as defined under this Act, may consider claims under this Act or State law and any final judgment of such court (when no longer subject to ordinary forms of review) shall be recognized, valid, and enforceable for all purposes of this Act.

(d) ASSESSMENT AND COLLECTION OF TAX.—The provisions of subsections (a), (b), and (c) shall not apply to any controversy or other matter resulting from the assessment or collection of any tax, or to the review of any regulation promulgated under the Internal Revenue Code of 1986.

(e) SAVINGS PROVISION.—Nothing in this title shall apply to any cause of action or right of recovery arising from any incident which occurred prior to the date of enactment of this title. Such claims shall be adjudicated pursuant to the law applicable on the date of the incident.

(f) PERIOD OF LIMITATIONS.—

(1) DAMAGES.—Except as provided in paragraphs (3) and (4), an action for damages under this Act shall be barred unless the action is brought within 3 years after—

(A) the date on which the loss and the connection of the loss with the discharge in question are reasonably discoverable with the exercise of due care, or

(B) in the case of natural resource damages under section 1002(b)(2)(A), the date of completion of the natural resources damage assessment under section 1006(c).

(2) REMOVAL COSTS.—An action for recovery of removal costs referred to in section 1002(b)(1) must be commenced within 3 years after completion of the removal action. In any such action described in this subsection, the court shall enter a declaratory judgment on liability for removal costs or damages that will be binding on any subsequent action or actions to recover further removal costs or damages. Except as otherwise provided in this paragraph, an action may be commenced under this title for recovery of removal costs at any time after such costs have been incurred.

(3) CONTRIBUTION.—No action for contribution for any removal costs or damages may be commenced more than 3 years after—

(A) the date of judgment in any action under this Act for recovery of such costs or damages, or

(B) the date of entry of a judicially approved settlement with respect to such costs or damages.

(4) SUBROGATION.—No action based on rights subrogated pursuant to this Act by reason of payment of a claim may be commenced under this Act more than 3 years after the date of payment of such claim.

(5) COMMENCEMENT.—The time limitations contained herein shall not begin to run—

(A) against a minor until the earlier of the date when such minor reaches 18 years of age or the date on which a legal representative is duly appointed for such minor, or

(B) against an incompetent person until the earlier of the date on which such incompetent's incompetency ends or the date on which a legal representative is duly appointed for such incompetent.

SEC. 1018. RELATIONSHIP TO OTHER LAW. 33 USC 2718.

(a) PRESERVATION OF STATE AUTHORITIES; SOLID WASTE DISPOSAL ACT.—Nothing in this Act or the Act of March 3, 1851 shall—

(1) affect, or be construed or interpreted as preempting, the authority of any State or political subdivision thereof from

imposing any additional liability or requirements with respect to—

(A) the discharge of oil or other pollution by oil within such State; or

(B) any removal activities in connection with such a discharge; or

(2) affect, or be construed or interpreted to affect or modify in any way the obligations or liabilities of any person under the Solid Waste Disposal Act (42 U.S.C. 6901 et seq.) or State law, including common law.

(b) PRESERVATION OF STATE FUNDS.—Nothing in this Act or in section 9509 of the Internal Revenue Code of 1986 (26 U.S.C. 9509) shall in any way affect, or be construed to affect, the authority of any State—

(1) to establish, or to continue in effect, a fund any purpose of which is to pay for costs or damages arising out of, or directly resulting from, oil pollution or the substantial threat of oil pollution; or

(2) to require any person to contribute to such a fund.

(c) ADDITIONAL REQUIREMENTS AND LIABILITIES; PENALTIES.—Nothing in this Act, the Act of March 3, 1851 (46 U.S.C. 183 et seq.), or section 9509 of the Internal Revenue Code of 1986 (26 U.S.C. 9509), shall in any way affect, or be construed to affect, the authority of the United States or any State or political subdivision thereof—

(1) to impose additional liability or additional requirements; or

(2) to impose, or to determine the amount of, any fine or penalty (whether criminal or civil in nature) for any violation of law;

relating to the discharge, or substantial threat of a discharge, of oil.

(d) FEDERAL EMPLOYEE LIABILITY.—For purposes of section 2679(b)(2)(B) of title 28, United States Code, nothing in this Act shall be construed to authorize or create a cause of action against a Federal officer or employee in the officer's or employee's personal or individual capacity for any act or omission while acting within the scope of the officer's or employee's office or employment.

33 USC 2719.

SEC. 1019. STATE FINANCIAL RESPONSIBILITY.

A State may enforce, on the navigable waters of the State, the requirements for evidence of financial responsibility under section 1016.

33 USC 2701 note.

SEC. 1020. APPLICATION.

This Act shall apply to an incident occurring after the date of the enactment of this Act.

TITLE II—CONFORMING AMENDMENTS

SEC. 2001. INTERVENTION ON THE HIGH SEAS ACT.

Section 17 of the Intervention on the High Seas Act (33 U.S.C. 1486) is amended to read as follows:

"SEC. 17. The Oil Spill Liability Trust Fund shall be available to the Secretary for actions taken under sections 5 and 7 of this Act."

SEC. 2002. FEDERAL WATER POLLUTION CONTROL ACT. 33 USC 1321 note.

(a) APPLICATION.—Subsections (f), (g), (h), and (i) of section 311 of the Federal Water Pollution Control Act (33 U.S.C. 1321) shall not apply with respect to any incident for which liability is established under section 1002 of this Act.

(b) CONFORMING AMENDMENTS.—Section 311 of the Federal Water Pollution Control Act (33 U.S.C. 1321) is amended as follows:

(1) Subsection (i) is amended by striking "(1)" after "(i)" and by striking paragraphs (2) and (3).

(2) Subsection (k) is repealed. Any amounts remaining in the revolving fund established under that subsection shall be deposited in the Fund. The Fund shall assume all liability incurred by the revolving fund established under that subsection. 33 USC 1321 note.

(3) Subsection (l) is amended by striking the second sentence.

(4) Subsection (p) is repealed.

(5) The following is added at the end thereof:

"(s) The Oil Spill Liability Trust Fund established under section 9509 of the Internal Revenue Code of 1986 (26 U.S.C. 9509) shall be available to carry out subsections (b), (c), (d), (j), and (l) as those subsections apply to discharges, and substantial threats of discharges, of oil. Any amounts received by the United States under this section shall be deposited in the Oil Spill Liability Trust Fund.".

SEC. 2003. DEEPWATER PORT ACT.

(a) CONFORMING AMENDMENTS.—The Deepwater Port Act of 1974 (33 U.S.C. 1502 et seq.) is amended—

(1) in section 4(c)(1) by striking "section 18(l) of this Act;" and inserting "section 1016 of the Oil Pollution Act of 1990"; and 33 USC 1503.

(2) by striking section 18.

(b) AMOUNTS REMAINING IN DEEPWATER PORT FUND.—Any amounts remaining in the Deepwater Port Liability Fund established under section 18(f) of the Deepwater Port Act of 1974 (33 U.S.C. 1517(f)) shall be deposited in the Oil Spill Liability Trust Fund established under section 9509 of the Internal Revenue Code of 1986 (26 U.S.C. 9509). The Oil Spill Liability Trust Fund shall assume all liability incurred by the Deepwater Port Liability Fund. 33 USC 1517. 26 USC 9509 note.

SEC. 2004. OUTER CONTINENTAL SHELF LANDS ACT AMENDMENTS OF 1978. Repeal.

Title III of the Outer Continental Shelf Lands Act Amendments of 1978 (43 U.S.C. 1811-1824) is repealed. Any amounts remaining in the Offshore Oil Pollution Compensation Fund established under section 302 of that title (43 U.S.C. 1812) shall be deposited in the Oil Spill Liability Trust Fund established under section 9509 of the Internal Revenue Code of 1986 (26 U.S.C. 9509). The Oil Spill Liability Trust Fund shall assume all liability incurred by the Offshore Oil Pollution Compensation Fund. 26 USC 9509 note.

TITLE III—INTERNATIONAL OIL POLLUTION PREVENTION AND REMOVAL

SEC. 3001. SENSE OF CONGRESS REGARDING PARTICIPATION IN INTERNATIONAL REGIME.

It is the sense of the Congress that it is in the best interests of the United States to participate in an international oil pollution liabil-

ity and compensation regime that is at least as effective as Federal and State laws in preventing incidents and in guaranteeing full and prompt compensation for damages resulting from incidents.

SEC. 3002. UNITED STATES-CANADA GREAT LAKES OIL SPILL COOPERATION.

(a) REVIEW.—The Secretary of State shall review relevant international agreements and treaties with the Government of Canada, including the Great Lakes Water Quality Agreement, to determine whether amendments or additional international agreements are necessary to—

(1) prevent discharges of oil on the Great Lakes;

(2) ensure an immediate and effective removal of oil on the Great Lakes; and

(3) fully compensate those who are injured by a discharge of oil on the Great Lakes.

(b) CONSULTATION.—In carrying out this section, the Secretary of State shall consult with the Department of Transportation, the Environmental Protection Agency, the National Oceanic and Atmospheric Administration, the Great Lakes States, the International Joint Commission, and other appropriate agencies.

(c) REPORT.—The Secretary of State shall submit a report to the Congress on the results of the review under this section within 6 months after the date of the enactment of this Act:

SEC. 3003. UNITED STATES-CANADA LAKE CHAMPLAIN OIL SPILL COOPERATION.

(a) REVIEW.—The Secretary of State shall review relevant international agreements and treaties with the Government of Canada, to determine whether amendments or additional international agreements are necessary to—

(1) prevent discharges of oil on Lake Champlain;

(2) ensure an immediate and effective removal of oil on Lake Champlain; and

(3) fully compensate those who are injured by a discharge of oil on Lake Champlain.

Vermont.
New York.

(b) CONSULTATION.—In carrying out this section, the Secretary of State shall consult with the Department of Transportation, the Environmental Protection Agency, the National Oceanic and Atmospheric Administration, the States of Vermont and New York, the International Joint Commission, and other appropriate agencies.

(c) REPORT.—The Secretary of State shall submit a report to the Congress on the results of the review under this section within 6 months after the date of the enactment of this Act.

SEC. 3004. INTERNATIONAL INVENTORY OF REMOVAL EQUIPMENT AND PERSONNEL.

The President shall encourage appropriate international organizations to establish an international inventory of spill removal equipment and personnel.

SEC. 3005. NEGOTIATIONS WITH CANADA CONCERNING TUG ESCORTS IN PUGET SOUND.

Congress urges the Secretary of State to enter into negotiations with the Government of Canada to ensure that tugboat escorts are required for all tank vessels with a capacity over 40,000 deadweight tons in the Strait of Juan de Fuca and in Haro Strait.

TITLE IV—PREVENTION AND REMOVAL

Subtitle A—Prevention

SEC. 4101. REVIEW OF ALCOHOL AND DRUG ABUSE AND OTHER MATTERS IN ISSUING LICENSES, CERTIFICATES OF REGISTRY, AND MERCHANT MARINERS' DOCUMENTS.

(a) LICENSES AND CERTIFICATES OF REGISTRY.—Section 7101 of title 46, United States Code, is amended by adding at the end the following:

"(g) The Secretary may not issue a license or certificate of registry under this section unless an individual applying for the license or certificate makes available to the Secretary, under section 206(b)(7) of the National Driver Register Act of 1982 (23 U.S.C. 401 note), any information contained in the National Driver Register related to an offense described in section 205(a)(3) (A) or (B) of that Act committed by the individual.

"(h) The Secretary may review the criminal record of an individual who applies for a license or certificate of registry under this section.

"(i) The Secretary shall require the testing of an individual who applies for issuance or renewal of a license or certificate of registry under this chapter for use of a dangerous drug in violation of law or Federal regulation.".

(b) MERCHANT MARINERS' DOCUMENTS.—Section 7302 of title 46, United States Code, is amended by adding at the end the following:

"(c) The Secretary may not issue a merchant mariner's document under this chapter unless the individual applying for the document makes available to the Secretary, under section 206(b)(7) of the National Driver Register Act of 1982 (23 U.S.C. 401 note), any information contained in the National Driver Register related to an offense described in section 205(a)(3) (A) or (B) of that Act committed by the individual.

"(d) The Secretary may review the criminal record of an individual who applies for a merchant mariner's document under this section.

"(e) The Secretary shall require the testing of an individual applying for issuance or renewal of a merchant mariner's document under this chapter for the use of a dangerous drug in violation of law or Federal regulation.".

SEC. 4102. TERM OF LICENSES, CERTIFICATES OF REGISTRY, AND MERCHANT MARINERS' DOCUMENTS; CRIMINAL RECORD REVIEWS IN RENEWALS.

(a) LICENSES.—Section 7106 of title 46, United States Code, is amended by inserting "and may be renewed for additional 5-year periods" after "is valid for 5 years".

(b) CERTIFICATES OF REGISTRY.—Section 7107 of title 46, United States Code, is amended by striking "is not limited in duration." and inserting "is valid for 5 years and may be renewed for additional 5-year periods.".

(c) MERCHANT MARINERS' DOCUMENTS.—Section 7302 of title 46, United States Code, is amended by adding at the end the following:

"(f) A merchant mariner's document issued under this chapter is valid for 5 years and may be renewed for additional 5-year periods.".

46 USC 7106 note.

(d) TERMINATION OF EXISTING LICENSES, CERTIFICATES, AND DOCUMENTS.—A license, certificate of registry, or merchant mariner's document issued before the date of the enactment of this section terminates on the day it would have expired if—

(1) subsections (a), (b), and (c) were in effect on the date it was issued; and

(2) it was renewed at the end of each 5-year period under section 7106, 7107, or 7302 of title 46, United States Code.

(e) CRIMINAL RECORD REVIEW IN RENEWALS OF LICENSES AND CERTIFICATES OF REGISTRY.—

(1) IN GENERAL.—Section 7109 of title 46, United States Code, is amended to read as follows:

"§ 7109. Review of criminal records

"The Secretary may review the criminal record of each holder of a license or certificate of registry issued under this part who applies for renewal of that license or certificate of registry.".

(2) CLERICAL AMENDMENT.—The analysis for chapter 71 of title 46, United States Code, is amended by striking the item relating to section 7109 and inserting the following:

"7109. Review of criminal records.".

SEC. 4103. SUSPENSION AND REVOCATION OF LICENSES, CERTIFICATES OF REGISTRY, AND MERCHANT MARINERS' DOCUMENTS FOR ALCOHOL AND DRUG ABUSE.

(a) AVAILABILITY OF INFORMATION IN NATIONAL DRIVER REGISTER.—

(1) IN GENERAL.—Section 7702 of title 46, United States Code, is amended by adding at the end the following:

"(c)(1) The Secretary shall request a holder of a license, certificate of registry, or merchant mariner's document to make available to the Secretary, under section 206(b)(4) of the National Driver Register Act of 1982 (23 U.S.C. 401 note), all information contained in the National Driver Register related to an offense described in section 205(a)(3) (A) or (B) of that Act committed by the individual.

"(2) The Secretary shall require the testing of the holder of a license, certificate of registry, or merchant mariner's document for use of alcohol and dangerous drugs in violation of law or Federal regulation. The testing may include preemployment (with respect to dangerous drugs only), periodic, random, reasonable cause, and post accident testing.

"(d)(1) The Secretary may temporarily, for not more than 45 days, suspend and take possession of the license, certificate of registry, or merchant mariner's document held by an individual if, when acting under the authority of that license, certificate, or document—

"(A) that individual performs a safety sensitive function on a vessel, as determined by the Secretary; and

"(B) there is probable cause to believe that the individual—

"(i) has performed the safety sensitive function in violation of law or Federal regulation regarding use of alcohol or a dangerous drug;

"(ii) has been convicted of an offense that would prevent the issuance or renewal of the license, certificate, or document; or

"(iii) within the 3-year period preceding the initiation of a suspension proceeding, has been convicted of an offense

described in section 205(a)(3) (A) or (B) of the National Driver Register Act of 1982.

"(2) If a license, certificate, or document is temporarily suspended under this section, an expedited hearing under subsection (a) of this section shall be held within 30 days after the temporary suspension.".

(2) DEFINITION OF DANGEROUS DRUG.—(A) Section 2101 of title 46, United States Code, is amended by inserting after paragraph (8) the following new paragraph:

"(8a) 'dangerous drug' means a narcotic drug, a controlled substance, or a controlled substance analog (as defined in section 102 of the Comprehensive Drug Abuse and Control Act of 1970 (21 U.S.C. 802)).".

(B) Sections 7503(a) and 7704(a) of title 46, United States Code, are repealed.

(b) BASES FOR SUSPENSION OR REVOCATION.—Section 7703 of title 46, United States Code, is amended to read as follows:

"§ 7703. Bases for suspension or revocation

"A license, certificate of registry, or merchant mariner's document issued by the Secretary may be suspended or revoked if the holder—

"(1) when acting under the authority of that license, certificate, or document—

"(A) has violated or fails to comply with this subtitle, a regulation prescribed under this subtitle, or any other law or regulation intended to promote marine safety or to protect navigable waters; or

"(B) has committed an act of incompetence, misconduct, or negligence;

"(2) is convicted of an offense that would prevent the issuance or renewal of a license, certificate of registry, or merchant mariner's document; or

"(3) within the 3-year period preceding the initiation of the suspension or revocation proceeding is convicted of an offense described in section 205(a)(3) (A) or (B) of the National Driver Register Act of 1982 (23 U.S.C. 401 note).".

(c) TERMINATION OF REVOCATION.—Section 7701(c) of title 46, United States Code, is amended to read as follows:

"(c) When a license, certificate of registry, or merchant mariner's document has been revoked under this chapter, the former holder may be issued a new license, certificate of registry, or merchant mariner's document only after—

"(1) the Secretary decides, under regulations prescribed by the Secretary, that the issuance is compatible with the requirement of good discipline and safety at sea; and Regulations.

"(2) the former holder provides satisfactory proof that the bases for revocation are no longer valid.".

SEC. 4104. REMOVAL OF MASTER OR INDIVIDUAL IN CHARGE.

Section 8101 of title 46, United States Code, is amended by adding at the end the following:

"(i) When the 2 next most senior licensed officers on a vessel reasonably believe that the master or individual in charge of the vessel is under the influence of alcohol or a dangerous drug and is incapable of commanding the vessel, the next most senior master,

mate, or operator licensed under section 7101(c) (1) or (3) of this title shall—

"(1) temporarily relieve the master or individual in charge;

"(2) temporarily take command of the vessel;

"(3) in the case of a vessel required to have a log under chapter 113 of this title, immediately enter the details of the incident in the log; and

"(4) report those details to the Secretary—

"(A) by the most expeditious means available; and

"(B) in written form transmitted within 12 hours after the vessel arrives at its next port.".

SEC. 4105. ACCESS TO NATIONAL DRIVER REGISTER.

(a) ACCESS TO REGISTER.—Section 206(b) of the National Driver Register Act of 1982 (23 U.S.C. 401 note) is amended—

(1) by redesignating the second paragraph (5) (as added to the end of that section by section 4(b)(1) of the Rail Safety Improvement Act of 1988) as paragraph (6); and

(2) by adding at the end the following:

"(7)(A) Any individual who holds or who has applied for a license or certificate of registry under section 7101 of title 46, United States Code, or a merchant mariner's document under section 7302 of title 46, United States Code, may request the chief driver licensing official of a State to transmit to the Secretary of the department in which the Coast Guard is operating in accordance with subsection (a) information regarding the motor vehicle driving record of the individual.

"(B) The Secretary—

"(i) may receive information transmitted by the chief driver licensing official of a State pursuant to a request under subparagraph (A);

"(ii) shall make the information available to the individual for review and written comment before denying, suspending, or revoking the license, certificate of registry, or merchant mariner's document of the individual based on that information and before using that information in any action taken under chapter 77 of title 46, United States Code; and

"(iii) may not otherwise divulge or use that information, except for the purposes of section 7101, 7302, or 7703 of title 46, United States Code.

"(C) Information regarding the motor vehicle driving record of an individual may not be transmitted to the Secretary under this paragraph if the information was entered in the Register more than 3 years before the date of the request for the information, unless the information relates to revocations or suspensions that are still in effect on the date of the request. Information submitted to the Register by States under the Act of July 14, 1960 (74 Stat. 526), or under this title shall be subject to access for the purpose of this paragraph during the transition to the Register described under section 203(c) of this title.".

(b) CONFORMING AMENDMENTS.—

(1) REVIEW OF INFORMATION RECEIVED FROM REGISTER.—Chapter 75 of title 46, United States Code, is amended by adding at the end the following:

"§ 7505. Review of information in National Driver Register

"The Secretary shall make information received from the National Driver Register under section 206(b)(7) of the National Driver Register Act of 1982 (23 U.S.C. 401 note) available to an individual for review and written comment before denying, suspending, revoking, or taking any other action relating to a license, certificate of registry, or merchant mariner's document authorized to be issued for that individual under this part, based on that information.".

(2) PENALTY FOR NEGLIGENT OPERATION OF VESSEL.—Section 2302(c) of title 46, United States Code, is amended by striking "intoxicated" and inserting "under the influence of alcohol, or a dangerous drug in violation of a law of the United States".

(c) CLERICAL AMENDMENT.—The analysis for chapter 75 of title 46, United States Code, is amended by adding at the end the following:

"7505. Review of information in National Driver Register.".

SEC. 4106. MANNING STANDARDS FOR FOREIGN TANK VESSELS.

(a) STANDARDS FOR FOREIGN TANK VESSELS.—Section 9101(a) of title 46, United States Code, is amended to read as follows:

"(a)(1) The Secretary shall evaluate the manning, training, qualification, and watchkeeping standards of a foreign country that issues documentation for any vessel to which chapter 37 of this title applies—

"(A) on a periodic basis; and

"(B) when the vessel is involved in a marine casualty required to be reported under section 6101(a) (4) or (5) of this title.

"(2) After each evaluation made under paragraph (1) of this subsection, the Secretary shall determine whether—

"(A) the foreign country has standards for licensing and certification of seamen that are at least equivalent to United States law or international standards accepted by the United States; and

"(B) those standards are being enforced.

"(3) If the Secretary determines under this subsection that a country has failed to maintain or enforce standards at least equivalent to United States law or international standards accepted by the United States, the Secretary shall prohibit vessels issued documentation by that country from entering the United States until the Secretary determines those standards have been established and are being enforced.

"(4) The Secretary may allow provisional entry of a vessel prohibited from entering the United States under paragraph (3) of this subsection if—

"(A) the owner or operator of the vessel establishes, to the satisfaction of the Secretary, that the vessel is not unsafe or a threat to the marine environment; or

"(B) the entry is necessary for the safety of the vessel or individuals on the vessel.".

(b) REPORTING MARINE CASUALTIES.—

(1) REPORTING REQUIREMENT.—Section 6101(a) of title 46, United States Code, is amended by adding at the end the following:

"(5) significant harm to the environment.".

(2) APPLICATION TO FOREIGN VESSELS.—Section 6101(d) of title 46, United States Code, is amended—

(A) by inserting "(1)" before "This part"; and

(B) by adding at the end the following:

"(2) This part applies, to the extent consistent with generally recognized principles of international law, to a foreign vessel constructed or adapted to carry, or that carries, oil in bulk as cargo or cargo residue involved in a marine casualty described under subsection (a) (4) or (5) in waters subject to the jurisdiction of the United States, including the Exclusive Economic Zone.".

(c) TECHNICAL AND CONFORMING AMENDMENTS.—Section 9(a) of the Ports and Waterways Safety Act (33 U.S.C. 1228(a)) is amended—

(1) in the matter preceding paragraph (1), by striking "section 4417a of the Revised Statutes, as amended," and inserting "chapter 37 of title 46, United States Code,";

(2) in paragraph (2), by striking "section 4417a of the Revised Statutes, as amended," and inserting "chapter 37 of title 46, United States Code,"; and

(3) in paragraph (5), by striking "section 4417a(11) of the Revised Statutes, as amended," and inserting "section 9101 of title 46, United States Code,".

SEC. 4107. VESSEL TRAFFIC SERVICE SYSTEMS.

(a) IN GENERAL.—Section 4(a) of the Ports and Waterways Safety Act (33 U.S.C. 1223(a)) is amended—

(1) by striking "Secretary may—" and inserting "Secrary—";

(2) in paragraph (1) by striking "establish, operate, and maintain" and inserting "may construct, operate, maintain, improve, or expand";

(3) in paragraph (2) by striking "require" and inserting "shall require appropriate";

(4) in paragraph (3) by inserting "may" before "require";

(5) in paragraph (4) by inserting "may" before "control"; and

(6) in paragraph (5) by inserting "may" before "require".

(b) DIRECTION OF VESSEL MOVEMENT.—

(1) STUDY.—The Secretary shall conduct a study—

(A) of whether the Secretary should be given additional authority to direct the movement of vessels on navigable waters and should exercise such authority; and

(B) to determine and prioritize the United States ports and channels that are in need of new, expanded, or improved vessel traffic service systems, by evaluating—

(i) the nature, volume, and frequency of vessel traffic;

(ii) the risks of collisions, spills, and damages associated with that traffic;

(iii) the impact of installation, expansion, or improvement of a vessel traffic service system; and

(iv) all other relevant costs and data.

(2) REPORT.—Not later than 1 year after the date of the enactment of this Act, the Secretary shall submit to the Congress a report on the results of the study conducted under paragraph (1) and recommendations for implementing the results of that study.

SEC. 4108. GREAT LAKES PILOTAGE.

(a) INDIVIDUALS WHO MAY SERVE AS PILOT ON UNDESIGNATED GREAT LAKE WATERS.—Section 9302(b) of title 46, United States Code, is amended to read as follows:

"(b) A member of the complement of a vessel of the United States operating on register or of a vessel of Canada may serve as the pilot required on waters not designated by the President if the member is licensed under section 7101 of this title, or under equivalent provisions of Canadian law, to direct the navigation of the vessel on the waters being navigated.".

(b) PENALTIES.—Section 9308 of title 46, United States Code, is amended in each of subsections (a), (b), and (c) by striking "$500" and inserting "no more than $10,000".

SEC. 4109. PERIODIC GAUGING OF PLATING THICKNESS OF COMMERCIAL VESSELS. 46 USC 3703 note.

Regulations.

Not later than 1 year after the date of the enactment of this Act, the Secretary shall issue regulations for vessels constructed or adapted to carry, or that carry, oil in bulk as cargo or cargo residue—

(1) establishing minimum standards for plating thickness; and

(2) requiring, consistent with generally recognized principles of international law, periodic gauging of the plating thickness of all such vessels over 30 years old operating on the navigable waters or the waters of the exclusive economic zone.

SEC. 4110. OVERFILL AND TANK LEVEL OR PRESSURE MONITORING DEVICES. Regulations. 46 USC 3703 note.

(a) STANDARDS.—Not later than 1 year after the date of the enactment of this Act, the Secretary shall establish, by regulation, minimum standards for devices for warning persons of overfills and tank levels of oil in cargo tanks and devices for monitoring the pressure of oil cargo tanks.

(b) USE.—Not later than 1 year after the date of the enactment of this Act, the Secretary shall issue regulations establishing, consistent with generally recognized principles of international law, requirements concerning the use of—

(1) overfill devices, and

(2) tank level or pressure monitoring devices,

which are referred to in subsection (a) and which meet the standards established by the Secretary under subsection (a), on vessels constructed or adapted to carry, or that carry, oil in bulk as cargo or cargo residue on the navigable waters and the waters of the exclusive economic zone.

SEC. 4111. STUDY ON TANKER NAVIGATION SAFETY STANDARDS. 46 USC 3703 note.

(a) IN GENERAL.—Not later than 1 year after the date of enactment of this Act, the Secretary shall initiate a study to determine whether existing laws and regulations are adequate to ensure the safe navigation of vessels transporting oil or hazardous substances in bulk on the navigable waters and the waters of the exclusive economic zone.

(b) CONTENT.—In conducting the study required under subsection (a), the Secretary shall—

(1) determine appropriate crew sizes on tankers;

(2) evaluate the adequacy of qualifications and training of crewmembers on tankers;

(3) evaluate the ability of crewmembers on tankers to take emergency actions to prevent or remove a discharge of oil or a hazardous substance from their tankers;

(4) evaluate the adequacy of navigation equipment and systems on tankers (including sonar, electronic chart display, and satellite technology);

(5) evaluate and test electronic means of position-reporting and identification on tankers, consider the minimum standards suitable for equipment for that purpose, and determine whether to require that equipment on tankers;

(6) evaluate the adequacy of navigation procedures under different operating conditions, including such variables as speed, daylight, ice, tides, weather, and other conditions;

(7) evaluate whether areas of navigable waters and the exclusive economic zone should be designated as zones where the movement of tankers should be limited or prohibited;

(8) evaluate whether inspection standards are adequate;

(9) review and incorporate the results of past studies, including studies conducted by the Coast Guard and the Office of Technology Assessment;

(10) evaluate the use of computer simulator courses for training bridge officers and pilots of vessels transporting oil or hazardous substances on the navigable waters and waters of the exclusive economic zone, and determine the feasibility and practicality of mandating such training;

(11) evaluate the size, cargo capacity, and flag nation of tankers transporting oil or hazardous substances on the navigable waters and the waters of the exclusive economic zone—

(A) identifying changes occurring over the past 20 years in such size and cargo capacity and in vessel navigation and technology; and

(B) evaluating the extent to which the risks or difficulties associated with tanker navigation, vessel traffic control, accidents, oil spills, and the containment and cleanup of such spills are influenced by or related to an increase in tanker size and cargo capacity; and

(12) evaluate and test a program of remote alcohol testing for masters and pilots aboard tankers carrying significant quantities of oil.

(c) REPORT.—Not later than 2 years after the date of enactment of this Act, the Secretary shall transmit to the Congress a report on the results of the study conducted under subsection (a), including recommendations for implementing the results of that study.

SEC. 4112. DREDGE MODIFICATION STUDY.

(a) STUDY.—The Secretary of the Army shall conduct a study and demonstration to determine the feasibility of modifying dredges to make them usable in removing discharges of oil and hazardous substances.

(b) REPORT.—Not later than 1 year after the date of enactment of this Act, the Secretary of the Army shall submit to the Congress a report on the results of the study conducted under subsection (a) and recommendations for implementing the results of that study.

President of U.S.

SEC. 4113. USE OF LINERS.

(a) STUDY.—The President shall conduct a study to determine whether liners or other secondary means of containment should be used to prevent leaking or to aid in leak detection at onshore facilities used for the bulk storage of oil and located near navigable waters.

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(b) REPORT.—Not later than 1 year after the date of enactment of this Act, the President shall submit to the Congress a report on the results of the study conducted under subsection (a) and recommendations to implement the results of the study.

(c) IMPLEMENTATION.—Not later than 6 months after the date the report required under subsection (b) is submitted to the Congress, the President shall implement the recommendations contained in the report.

SEC. 4114. TANK VESSEL MANNING.

46 USC 3703 note.

(a) RULEMAKING.—In order to protect life, property, and the environment, the Secretary shall initiate a rulemaking proceeding within 180 days after the date of the enactment of this Act to define the conditions under, and designate the waters upon, which tank vessels subject to section 3703 of title 46, United States Code, may operate in the navigable waters with the auto-pilot engaged or with an unattended engine room.

(b) WATCHES.—Section 8104 of title 46, United States Code, is amended by adding at the end the following new subsection:

"(n) On a tanker, a licensed individual or seaman may not be permitted to work more than 15 hours in any 24-hour period, or more than 36 hours in any 72-hour period, except in an emergency or a drill. In this subsection, 'work' includes any administrative duties associated with the vessel whether performed on board the vessel or onshore.".

(c) MANNING REQUIREMENT.—Section 8101(a) of title 46, United States Code, is amended—

(1) by striking "and" at the end of paragraph (1);

(2) by striking the period at the end of paragraph (2) and inserting "; and"; and

(3) by adding at the end the following new paragraph:

"(3) a tank vessel shall consider the navigation, cargo handling, and maintenance functions of that vessel for protection of life, property, and the environment.".

(d) STANDARDS.—Section 9102(a) of title 46, United States Code, is amended—

(1) by striking "and" at the end of paragraph (6);

(2) by striking the period at the end of paragraph (7) and inserting "; and"; and

(3) by adding at the end the following new paragraph:

"(8) instruction in vessel maintenance functions.".

(e) RECORDS.—Section 7502 of title 46, United States Code, is amended by striking "maintain records" and inserting "maintain computerized records".

SEC. 4115. ESTABLISHMENT OF DOUBLE HULL REQUIREMENT FOR TANK VESSELS.

(a) DOUBLE HULL REQUIREMENT.—Chapter 37 of title 46, United States Code, is amended by inserting after section 3703 the following new section:

"§ 3703a. Tank vessel construction standards

"(a) Except as otherwise provided in this section, a vessel to which this chapter applies shall be equipped with a double hull—

"(1) if it is constructed or adapted to carry, or carries, oil in bulk as cargo or cargo residue; and

"(2) when operating on the waters subject to the jurisdiction of the United States, including the Exclusive Economic Zone.

"(b) This section does not apply to—

"(1) a vessel used only to respond to a discharge of oil or a hazardous substance;

"(2) a vessel of less than 5,000 gross tons equipped with a double containment system determined by the Secretary to be as effective as a double hull for the prevention of a discharge of oil; or

"(3) before January 1, 2015—

"(A) a vessel unloading oil in bulk at a deepwater port licensed under the Deepwater Port Act of 1974 (33 U.S.C. 1501 et seq.); or

"(B) a delivering vessel that is offloading in lightering activities—

"(i) within a lightering zone established under section 3715(b)(5) of this title; and

"(ii) more than 60 miles from the baseline from which the territorial sea of the United States is measured.

"(c)(1) In this subsection, the age of a vessel is determined from the later of the date on which the vessel—

"(A) is delivered after original construction;

"(B) is delivered after completion of a major conversion; or

"(C) had its appraised salvage value determined by the Coast Guard and is qualified for documentation under section 4136 of the Revised Statutes of the United States (46 App. U.S.C. 14).

"(2) A vessel of less than 5,000 gross tons for which a building contract or contract for major conversion was placed before June 30, 1990, and that is delivered under that contract before January 1, 1994, and a vessel of less than 5,000 gross tons that had its appraised salvage value determined by the Coast Guard before June 30, 1990, and that qualifies for documentation under section 4136 of the Revised Statutes of the United States (46 App. U.S.C. 14) before January 1, 1994, may not operate in the navigable waters or the Exclusive Economic Zone of the United States after January 1, 2015, unless the vessel is equipped with a double hull or with a double containment system determined by the Secretary to be as effective as a double hull for the prevention of a discharge of oil.

"(3) A vessel for which a building contract or contract for major conversion was placed before June 30, 1990, and that is delivered under that contract before January 1, 1994, and a vessel that had its appraised salvage value determined by the Coast Guard before June 30, 1990, and that qualifies for documentation under section 4136 of the Revised Statutes of the United States (46 App. U.S.C. 14) before January 1, 1994, may not operate in the navigable waters or Exclusive Economic Zone of the United States unless equipped with a double hull—

"(A) in the case of a vessel of at least 5,000 gross tons but less than 15,000 gross tons—

"(i) after January 1, 1995, if the vessel is 40 years old or older and has a single hull, or is 45 years old or older and has a double bottom or double sides;

"(ii) after January 1, 1996, if the vessel is 39 years old or older and has a single hull, or is 44 years old or older and has a double bottom or double sides;

"(iii) after January 1, 1997, if the vessel is 38 years old or older and has a single hull, or is 43 years old or older and has a double bottom or double sides;

"(iv) after January 1, 1998, if the vessel is 37 years old or older and has a single hull, or is 42 years old or older and has a double bottom or double sides;

"(v) after January 1, 1999, if the vessel is 36 years old or older and has a single hull, or is 41 years old or older and has a double bottom or double sides;

"(vi) after January 1, 2000, if the vessel is 35 years old or older and has a single hull, or is 40 years old or older and has a double bottom or double sides; and

"(vii) after January 1, 2005, if the vessel is 25 years old or older and has a single hull, or is 30 years old or older and has a double bottom or double sides;

"(B) in the case of a vessel of at least 15,000 gross tons but less than 30,000 gross tons—

"(i) after January 1, 1995, if the vessel is 40 years old or older and has a single hull, or is 45 years old or older and has a double bottom or double sides;

"(ii) after January 1, 1996, if the vessel is 38 years old or older and has a single hull, or is 43 years old or older and has a double bottom or double sides;

"(iii) after January 1, 1997, if the vessel is 36 years old or older and has a single hull, or is 41 years old or older and has a double bottom or double sides;

"(iv) after January 1, 1998, if the vessel is 34 years old or older and has a single hull, or is 39 years old or older and has a double bottom or double sides;

"(v) after January 1, 1999, if the vessel is 32 years old or older and has a single hull, or 37 years old or older and has a double bottom or double sides;

"(vi) after January 1, 2000, if the vessel is 30 years old or older and has a single hull, or is 35 years old or older and has a double bottom or double sides;

"(vii) after January 1, 2001, if the vessel is 29 years old or older and has a single hull, or is 34 years old or older and has a double bottom or double sides;

"(viii) after January 1, 2002, if the vessel is 28 years old or older and has a single hull, or is 33 years old or older and has a double bottom or double sides;

"(ix) after January 1, 2003, if the vessel is 27 years old or older and has a single hull, or is 32 years old or older and has a double bottom or double sides;

"(x) after January 1, 2004, if the vessel is 26 years old or older and has a single hull, or is 31 years old or older and has a double bottom or double sides; and

"(xi) after January 1, 2005, if the vessel is 25 years old or older and has a single hull, or is 30 years old or older and has a double bottom or double sides; and

"(C) in the case of a vessel of at least 30,000 gross tons—

"(i) after January 1, 1995, if the vessel is 28 years old or older and has a single hull, or 33 years old or older and has a double bottom or double sides;

"(ii) after January 1, 1996, if the vessel is 27 years old or older and has a single hull, or is 32 years old or older and has a double bottom or double sides;

"(iii) after January 1, 1997, if the vessel is 26 years old or older and has a single hull, or is 31 years old or older and has a double bottom or double sides;

"(iv) after January 1, 1998, if the vessel is 25 years old or older and has a single hull, or is 30 years old or older and has a double bottom or double sides;

"(v) after January 1, 1999, if the vessel is 24 years old or older and has a single hull, or 29 years old or older and has a double bottom or double sides; and

"(vi) after January 1, 2000, if the vessel is 23 years old or older and has a single hull, or is 28 years old or older and has a double bottom or double sides.

"(4) Except as provided in subsection (b) of this section—

"(A) a vessel that has a single hull may not operate after January 1, 2010; and

"(B) a vessel that has a double bottom or double sides may not operate after January 1, 2015.".

46 USC 3703a note.

(b) RULEMAKING.—The Secretary shall, within 12 months after the date of the enactment of this Act, complete a rulemaking proceeding and issue a final rule to require that tank vessels over 5,000 gross tons affected by section 3703a of title 46, United States Code, as added by this section, comply until January 1, 2015, with structural and operational requirements that the Secretary determines will provide as substantial protection to the environment as is economically and technologically feasible.

(c) CLERICAL AMENDMENT.—The analysis for chapter 37 of title 46, United States Code, is amended by inserting after the item relating to section 3703 the following:

"3703a. Tank vessel construction standards.".

(d) LIGHTERING REQUIREMENTS.—Section 3715(a) of title 46, United States Code, is amended—

(1) in paragraph (1), by striking "; and" and inserting a semicolon;

(2) in paragraph (2), by striking the period and inserting "; and"; and

(3) by adding at the end the following:

"(3) the delivering and the receiving vessel had on board at the time of transfer, a certificate of financial responsibility as would have been required under section 1016 of the Oil Pollution Act of 1990, had the transfer taken place in a place subject to the jurisdiction of the United States;

"(4) the delivering and the receiving vessel had on board at the time of transfer, evidence that each vessel is operating in compliance with section 311(j) of the Federal Water Pollution Control Act (33 U.S.C. 1321(j)); and

"(5) the delivering and the receiving vessel are operating in compliance with section 3703a of this title.".

46 USC 3703a note. Reports.

(e) SECRETARIAL STUDIES.—

(1) OTHER REQUIREMENTS.—Not later than 6 months after the date of enactment of this Act, the Secretary shall determine, based on recommendations from the National Academy of Sciences or other qualified organizations, whether other structural and operational tank vessel requirements will provide protection to the marine environment equal to or greater than that provided by double hulls, and shall report to the Congress that determination and recommendations for legislative action.

(2) REVIEW AND ASSESSMENT.—The Secretary shall--

(A) periodically review recommendations from the National Academy of Sciences and other qualified organizations on methods for further increasing the environmental and operational safety of tank vessels;

(B) not later than 5 years after the date of enactment of this Act, assess the impact of this section on the safety of the marine environment and the economic viability and operational makeup of the maritime oil transportation industry; and

(C) report the results of the review and assessment to the Congress with recommendations for legislative or other action. Reports.

(f) VESSEL FINANCING.—Section 1104 of the Merchant Marine Act of 1936 (46 App. U.S.C. 1274) is amended—

(1) by striking "SEC. 1104." and inserting "SEC. 1104A."; and

(2) by inserting after section 1104A (as redesignated by paragraph (1)) the following:

"SEC. 1104B. (a) Notwithstanding the provisions of this title, except as provided in subsection (d) of this section, the Secretary, upon the terms the Secretary may prescribe, may guarantee or make a commitment to guarantee, payment of the principal of and interest on an obligation which aids in financing and refinancing, including reimbursement to an obligor for expenditures previously made, of a contract for construction or reconstruction of a vessel or vessels owned by citizens of the United States which are designed and to be employed for commercial use in the coastwise or intercoastal trade or in foreign trade as defined in section 905 of this Act if— 46 USC app. 1274a.

"(1) the construction or reconstruction by an applicant is made necessary to replace vessels the continued operation of which is denied by virtue of the imposition of a statutorily mandated change in standards for the operation of vessels, and where, as a matter of law, the applicant would otherwise be denied the right to continue operating vessels in the trades in which the applicant operated prior to the taking effect of the statutory or regulatory change;

"(2) the applicant is presently engaged in transporting cargoes in vessels of the type and class that will be constructed or reconstructed under this section, and agrees to employ vessels constructed or reconstructed under this section as replacements only for vessels made obsolete by changes in operating standards imposed by statute;

"(3) the capacity of the vessels to be constructed or reconstructed under this title will not increase the cargo carrying capacity of the vessels being replaced;

"(4) the Secretary has not made a determination that the market demand for the vessel over its useful life will diminish so as to make the granting of the guarantee fiduciarily imprudent; and

"(5) the Secretary has considered the provisions of section 1104A(d)(1)(A) (iii), (iv), and (v) of this title.

"(b) For the purposes of this section—

"(1) the maximum term for obligations guaranteed under this program may not exceed 25 years;

"(2) obligations guaranteed may not exceed 75 percent of the actual cost or depreciated actual cost to the applicant for the construction or reconstruction of the vessel; and

"(3) reconstruction cost obligations may not be guaranteed unless the vessel after reconstruction will have a useful life of at least 15 years.

"(c)(1) The Secretary shall by rule require that the applicant provide adequate security against default. The Secretary may, in addition to any fees assessed under section 1104A(e), establish a Vessel Replacement Guarantee Fund into which shall be paid by obligors under this section—

"(A) annual fees which may be an additional amount on the loan guarantee fee in section 1104A(e) not to exceed an additional 1 percent; or

"(B) fees based on the amount of the obligation versus the percentage of the obligor's fleet being replaced by vessels constructed or reconstructed under this section.

"(2) The Vessel Replacement Guarantee Fund shall be a subaccount in the Federal Ship Financing Fund, and shall—

"(A) be the depository for all moneys received by the Secretary under sections 1101 through 1107 of this title with respect to guarantee or commitments to guarantee made under this section;

"(B) not include investigation fees payable under section 1104A(f) which shall be paid to the Federal Ship Financing Fund; and

"(C) be the depository, whenever there shall be outstanding any notes or obligations issued by the Secretary under section 1105(d) with respect to the Vessel Replacement Guarantee Fund, for all moneys received by the Secretary under sections 1101 through 1107 from applicants under this section.

"(d) The program created by this section shall, in addition to the requirements of this section, be subject to the provisions of sections 1101 through 1103; 1104A(b) (1), (4), (5), (6); 1104A(e); 1104A(f); 1104A(h); and 1105 through 1107; except that the Federal Ship Financing Fund is not liable for any guarantees or commitments to guarantee issued under this section.".

SEC. 4116. PILOTAGE.

(a) PILOT REQUIRED.—Section 8502(g) of title 46, United States Code, is amended to read as follows:

Regulations. Alaska.

"(g)(1) The Secretary shall designate by regulation the areas of the approaches to and waters of Prince William Sound, Alaska, if any, on which a vessel subject to this section is not required to be under the direction and control of a pilot licensed under section 7101 of this title.

"(2) In any area of Prince William Sound, Alaska, where a vessel subject to this section is required to be under the direction and control of a pilot licensed under section 7101 of this title, the pilot may not be a member of the crew of that vessel and shall be a pilot licensed by the State of Alaska who is operating under a Federal license, when the vessel is navigating waters between 60°49' North latitude and the Port of Valdez, Alaska.".

(b) SECOND PERSON REQUIRED.—Section 8502 of title 46, United States Code, is amended by adding at the end the following:

"(h) The Secretary shall designate waters on which tankers over 1,600 gross tons subject to this section shall have on the bridge a

master or mate licensed to direct and control the vessel under section 7101(c)(1) of this title who is separate and distinct from the pilot required under subsection (a) of this section.".

(c) ESCORTS FOR CERTAIN TANKERS.—Not later than 6 months after the date of the enactment of this Act, the Secretary shall initiate issuance of regulations under section 3703(a)(3) of title 46, United States Code, to define those areas, including Prince William Sound, Alaska, and Rosario Strait and Puget Sound, Washington (including those portions of the Strait of Juan de Fuca east of Port Angeles, Haro Strait, and the Strait of Georgia subject to United States jurisdiction), on which single hulled tankers over 5,000 gross tons transporting oil in bulk shall be escorted by at least two towing vessels (as defined under section 2101 of title 46, United States Code) or other vessels considered appropriate by the Secretary. Regulations. Alaska. Washington. 46 USC 3703 note.

(d) TANKER DEFINED.—In this section the term "tanker" has the same meaning the term has in section 2101 of title 46, United States Code. 46 USC 3703 note.

SEC. 4117. MARITIME POLLUTION PREVENTION TRAINING PROGRAM STUDY. 46 USC app. 1295 note.

The Secretary shall conduct a study to determine the feasibility of a Maritime Oil Pollution Prevention Training program to be carried out in cooperation with approved maritime training institutions. The study shall assess the costs and benefits of transferring suitable vessels to selected maritime training institutions, equipping the vessels for oil spill response, and training students in oil pollution response skills. The study shall be completed and transmitted to the Congress no later than one year after the date of the enactment of this Act.

SEC. 4118. VESSEL COMMUNICATION EQUIPMENT REGULATIONS. 33 USC 1203 note.

The Secretary shall, not later than one year after the date of the enactment of this Act, issue regulations necessary to ensure that vessels subject to the Vessel Bridge-to-Bridge Radiotelephone Act of 1971 (33 U.S.C. 1203) are also equipped as necessary to—

(1) receive radio marine navigation safety warnings; and

(2) engage in radio communications on designated frequencies with the Coast Guard, and such other vessels and stations as may be specified by the Secretary.

Subtitle B—Removal

SEC. 4201. FEDERAL REMOVAL AUTHORITY. President of U.S. Hazardous materials.

(a) IN GENERAL.—Subsection (c) of section 311 of the Federal Water Pollution Control Act (33 U.S.C. 1321(c)) is amended to read as follows:

"(c) FEDERAL REMOVAL AUTHORITY.—

"(1) GENERAL REMOVAL REQUIREMENT.—(A) The President shall, in accordance with the National Contingency Plan and any appropriate Area Contingency Plan, ensure effective and immediate removal of a discharge, and mitigation or prevention of a substantial threat of a discharge, of oil or a hazardous substance—

"(i) into or on the navigable waters;

"(ii) on the adjoining shorelines to the navigable waters;

"(iii) into or on the waters of the exclusive economic zone; or

"(iv) that may affect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States.

"(B) In carrying out this paragraph, the President may—

"(i) remove or arrange for the removal of a discharge, and mitigate or prevent a substantial threat of a discharge, at any time;

"(ii) direct or monitor all Federal, State, and private actions to remove a discharge; and

"(iii) remove and, if necessary, destroy a vessel discharging, or threatening to discharge, by whatever means are available.

"(2) DISCHARGE POSING SUBSTANTIAL THREAT TO PUBLIC HEALTH OR WELFARE.—(A) If a discharge, or a substantial threat of a discharge, of oil or a hazardous substance from a vessel, offshore facility, or onshore facility is of such a size or character as to be a substantial threat to the public health or welfare of the United States (including but not limited to fish, shellfish, wildlife, other natural resources, and the public and private beaches and shorelines of the United States), the President shall direct all Federal, State, and private actions to remove the discharge or to mitigate or prevent the threat of the discharge.

"(B) In carrying out this paragraph, the President may, without regard to any other provision of law governing contracting procedures or employment of personnel by the Federal Government—

"(i) remove or arrange for the removal of the discharge, or mitigate or prevent the substantial threat of the discharge; and

"(ii) remove and, if necessary, destroy a vessel discharging, or threatening to discharge, by whatever means are available.

"(3) ACTIONS IN ACCORDANCE WITH NATIONAL CONTINGENCY PLAN.—(A) Each Federal agency, State, owner or operator, or other person participating in efforts under this subsection shall act in accordance with the National Contingency Plan or as directed by the President.

"(B) An owner or operator participating in efforts under this subsection shall act in accordance with the National Contingency Plan and the applicable response plan required under subsection (j), or as directed by the President.

"(4) EXEMPTION FROM LIABILITY.—(A) A person is not liable for removal costs or damages which result from actions taken or omitted to be taken in the course of rendering care, assistance, or advice consistent with the National Contingency Plan or as otherwise directed by the President.

"(B) Subparagraph (A) does not apply—

"(i) to a responsible party;

"(ii) to a response under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601 et seq.);

"(iii) with respect to personal injury or wrongful death; or

"(iv) if the person is grossly negligent or engages in willful misconduct.

"(C) A responsible party is liable for any removal costs and damages that another person is relieved of under subparagraph (A).

"(5) OBLIGATION AND LIABILITY OF OWNER OR OPERATOR NOT AFFECTED.—Nothing in this subsection affects—

"(A) the obligation of an owner or operator to respond immediately to a discharge, or the threat of a discharge, of oil; or

"(B) the liability of a responsible party under the Oil Pollution Act of 1990.

"(6) RESPONSIBLE PARTY DEFINED.—For purposes of this subsection, the term 'responsible party' has the meaning given that term under section 1001 of the Oil Pollution Act of 1990.".

(b) NATIONAL CONTINGENCY PLAN.—Subsection (d) of section 311 of the Federal Water Pollution Control Act (33 U.S.C. 1321(d)) is amended to read as follows:

"(d) NATIONAL CONTINGENCY PLAN.—

"(1) PREPARATION BY PRESIDENT.—The President shall prepare and publish a National Contingency Plan for removal of oil and hazardous substances pursuant to this section.

"(2) CONTENTS.—The National Contingency Plan shall provide for efficient, coordinated, and effective action to minimize damage from oil and hazardous substance discharges, including containment, dispersal, and removal of oil and hazardous substances, and shall include, but not be limited to, the following:

"(A) Assignment of duties and responsibilities among Federal departments and agencies in coordination with State and local agencies and port authorities including, but not limited to, water pollution control and conservation and trusteeship of natural resources (including conservation of fish and wildlife).

"(B) Identification, procurement, maintenance, and storage of equipment and supplies.

"(C) Establishment or designation of Coast Guard strike teams, consisting of—

"(i) personnel who shall be trained, prepared, and available to provide necessary services to carry out the National Contingency Plan;

"(ii) adequate oil and hazardous substance pollution control equipment and material; and

"(iii) a detailed oil and hazardous substance pollution and prevention plan, including measures to protect fisheries and wildlife.

"(D) A system of surveillance and notice designed to safeguard against as well as ensure earliest possible notice of discharges of oil and hazardous substances and imminent threats of such discharges to the appropriate State and Federal agencies.

"(E) Establishment of a national center to provide coordination and direction for operations in carrying out the Plan.

"(F) Procedures and techniques to be employed in identifying, containing, dispersing, and removing oil and hazardous substances.

"(G) A schedule, prepared in cooperation with the States, identifying—

"(i) dispersants, other chemicals, and other spill mitigating devices and substances, if any, that may be used in carrying out the Plan,

"(ii) the waters in which such dispersants, other chemicals, and other spill mitigating devices and substances may be used, and

"(iii) the quantities of such dispersant, other chemicals, or other spill mitigating device or substance which can be used safely in such waters,

which schedule shall provide in the case of any dispersant, chemical, spill mitigating device or substance, or waters not specifically identified in such schedule that the President, or his delegate, may, on a case-by-case basis, identify the dispersants, other chemicals, and other spill mitigating devices and substances which may be used, the waters in which they may be used, and the quantities which can be used safely in such waters.

"(H) A system whereby the State or States affected by a discharge of oil or hazardous substance may act where necessary to remove such discharge and such State or States may be reimbursed in accordance with the Oil Pollution Act of 1990, in the case of any discharge of oil from a vessel or facility, for the reasonable costs incurred for that removal, from the Oil Spill Liability Trust Fund.

"(I) Establishment of criteria and procedures to ensure immediate and effective Federal identification of, and response to, a discharge, or the threat of a discharge, that results in a substantial threat to the public health or welfare of the United States, as required under subsection (c)(2).

"(J) Establishment of procedures and standards for removing a worst case discharge of oil, and for mitigating or preventing a substantial threat of such a discharge.

"(K) Designation of the Federal official who shall be the Federal On-Scene Coordinator for each area for which an Area Contingency Plan is required to be prepared under subsection (j).

"(L) Establishment of procedures for the coordination of activities of—

"(i) Coast Guard strike teams established under subparagraph (C);

"(ii) Federal On-Scene Coordinators designated under subparagraph (K);

"(iii) District Response Groups established under subsection (j); and

"(iv) Area Committees established under subsection (j).

Fish and fishing.
Wildlife.

"(M) A fish and wildlife response plan, developed in consultation with the United States Fish and Wildlife Service, the National Oceanic and Atmospheric Administration, and other interested parties (including State fish and wildlife conservation officials), for the immediate and effective protection, rescue, and rehabilitation of, and the minimization of risk of damage to, fish and wildlife resources and their habitat that are harmed or that may be jeopardized by a discharge.

"(3) REVISIONS AND AMENDMENTS.—The President may, from time to time, as the President deems advisable, revise or otherwise amend the National Contingency Plan.

"(4) ACTIONS IN ACCORDANCE WITH NATIONAL CONTINGENCY PLAN.—After publication of the National Contingency Plan, the removal of oil and hazardous substances and actions to minimize damage from oil and hazardous substance discharges shall, to the greatest extent possible, be in accordance with the National Contingency Plan.".

(b) DEFINITIONS.— Section 311(a) of the Federal Water Pollution Control Act (33 U.S.C. 1321(a)) is amended—

(1) in paragraph (8), by inserting "containment and" after "refers to"; and

(2) in paragraph (16) by striking the period at the end and inserting a semicolon;

(3) in paragraph (17)—

(A) by striking "Otherwise" and inserting "otherwise"; and

(B) by striking the period at the end and inserting a semicolon; and

(4) by adding at the end the following:

"(18) 'Area Committee' means an Area Committee established under subsection (j);

"(19) 'Area Contingency Plan' means an Area Contingency Plan prepared under subsection (j);

"(20) 'Coast Guard District Response Group' means a Coast Guard District Response Group established under subsection (j);

"(21) 'Federal On-Scene Coordinator' means a Federal On-Scene Coordinator designated in the National Contingency Plan;

"(22) 'National Contingency Plan' means the National Contingency Plan prepared and published under subsection (d);

"(23) 'National Response Unit' means the National Response Unit established under subsection (j); and

"(24) 'worst case discharge' means—

"(A) in the case of a vessel, a discharge in adverse weather conditions of its entire cargo; and

"(B) in the case of an offshore facility or onshore facility, the largest foreseeable discharge in adverse weather conditions.".

(c) REVISION OF NATIONAL CONTINGENCY PLAN.—Not later than one year after the date of the enactment of this Act, the President shall revise and republish the National Contingency Plan prepared under section 311(c)(2) of the Federal Water Pollution Control Act (as in effect immediately before the date of the enactment of this Act) to implement the amendments made by this section and section 4202. 33 USC 1321 note.

SEC. 4202. NATIONAL PLANNING AND RESPONSE SYSTEM.

(a) IN GENERAL.—Subsection (j) of section 311 of the Federal Water Pollution Control Act (33 U.S.C. 1321(j)) is amended—

(1) by striking "(j)" and inserting the following:

"(j) NATIONAL RESPONSE SYSTEM.—";

(2) by moving paragraph (1) so as to begin immediately below the heading for subsection (j) (as added by paragraph (1) of this subsection);

(3) by moving paragraph (1) two ems to the right, so the left margin of that paragraph is aligned with the left margin of paragraph (2) of that subsection (as added by paragraph (6) of this subsection);

(4) in paragraph (1) by striking "(1)" and inserting the following:

"(1) IN GENERAL.—";

(5) by striking paragraph (2); and

(6) by adding at the end the following:

Uniformed services. North Carolina.

"(2) NATIONAL RESPONSE UNIT.—The Secretary of the department in which the Coast Guard is operating shall establish a National Response Unit at Elizabeth City, North Carolina. The Secretary, acting through the National Response Unit—

Public information.

"(A) shall compile and maintain a comprehensive computer list of spill removal resources, personnel, and equipment that is available worldwide and within the areas designated by the President pursuant to paragraph (4), which shall be available to Federal and State agencies and the public;

"(B) shall provide technical assistance, equipment, and other resources requested by a Federal On-Scene Coordinator;

"(C) shall coordinate use of private and public personnel and equipment to remove a worst case discharge, and to mitigate or prevent a substantial threat of such a discharge, from a vessel, offshore facility, or onshore facility operating in or near an area designated by the President pursuant to paragraph (4);

"(D) may provide technical assistance in the preparation of Area Contingency Plans required under paragraph (4);

"(E) shall administer Coast Guard strike teams established under the National Contingency Plan;

Records.

"(F) shall maintain on file all Area Contingency Plans approved by the President under this subsection; and

"(G) shall review each of those plans that affects its responsibilities under this subsection.

"(3) COAST GUARD DISTRICT RESPONSE GROUPS.—(A) The Secretary of the department in which the Coast Guard is operating shall establish in each Coast Guard district a Coast Guard District Response Group.

"(B) Each Coast Guard District Response Group shall consist of—

"(i) the Coast Guard personnel and equipment, including firefighting equipment, of each port within the district;

"(ii) additional prepositioned equipment; and

"(iii) a district response advisory staff.

"(C) Coast Guard district response groups—

"(i) shall provide technical assistance, equipment, and other resources when required by a Federal On-Scene Coordinator;

"(ii) shall maintain all Coast Guard response equipment within its district;

"(iii) may provide technical assistance in the preparation of Area Contingency Plans required under paragraph (4); and

"(iv) shall review each of those plans that affect its area of geographic responsibility.

"(4) AREA COMMITTEES AND AREA CONTINGENCY PLANS.—(A) There is established for each area designated by the President an Area Committee comprised of members appointed by the President from qualified personnel of Federal, State, and local agencies. Establishment.

"(B) Each Area Committee, under the direction of the Federal On-Scene Coordinator for its area, shall—

"(i) prepare for its area the Area Contingency Plan required under subparagraph (C);

"(ii) work with State and local officials to enhance the contingency planning of those officials and to assure preplanning of joint response efforts, including appropriate procedures for mechanical recovery, dispersal, shoreline cleanup, protection of sensitive environmental areas, and protection, rescue, and rehabilitation of fisheries and wildlife; and

"(iii) work with State and local officials to expedite decisions for the use of dispersants and other mitigating substances and devices.

"(C) Each Area Committee shall prepare and submit to the President for approval an Area Contingency Plan for its area. The Area Contingency Plan shall—

"(i) when implemented in conjunction with the National Contingency Plan, be adequate to remove a worst case discharge, and to mitigate or prevent a substantial threat of such a discharge, from a vessel, offshore facility, or onshore facility operating in or near the area;

"(ii) describe the area covered by the plan, including the areas of special economic or environmental importance that might be damaged by a discharge;

"(iii) describe in detail the responsibilities of an owner or operator and of Federal, State, and local agencies in removing a discharge, and in mitigating or preventing a substantial threat of a discharge;

"(iv) list the equipment (including firefighting equipment), dispersants or other mitigating substances and devices, and personnel available to an owner or operator and Federal, State, and local agencies, to ensure an effective and immediate removal of a discharge, and to ensure mitigation or prevention of a substantial threat of a discharge;

"(v) describe the procedures to be followed for obtaining an expedited decision regarding the use of dispersants;

"(vi) describe in detail how the plan is integrated into other Area Contingency Plans and vessel, offshore facility, and onshore facility response plans approved under this subsection, and into operating procedures of the National Response Unit;

"(vii) include any other information the President requires; and

"(viii) be updated periodically by the Area Committee.

"(D) The President shall—

"(i) review and approve Area Contingency Plans under this paragraph; and

"(ii) periodically review Area Contingency Plans so approved.

"(5) TANK VESSEL AND FACILITY RESPONSE PLANS.—(A) The President shall issue regulations which require an owner or Regulations.

operator of a tank vessel or facility described in subparagraph (B) to prepare and submit to the President a plan for responding, to the maximum extent practicable, to a worst case discharge, and to a substantial threat of such a discharge, of oil or a hazardous substance.

"(B) The tank vessels and facilities referred to in subparagraph (A) are the following:

"(i) A tank vessel, as defined under section 2101 of title 46, United States Code.

"(ii) An offshore facility.

"(iii) An onshore facility that, because of its location, could reasonably be expected to cause substantial harm to the environment by discharging into or on the navigable waters, adjoining shorelines, or the exclusive economic zone.

"(C) A response plan required under this paragraph shall—

"(i) be consistent with the requirements of the National Contingency Plan and Area Contingency Plans;

"(ii) identify the qualified individual having full authority to implement removal actions, and require immediate communications between that individual and the appropriate Federal official and the persons providing personnel and equipment pursuant to clause (iii);

"(iii) identify, and ensure by contract or other means approved by the President the availability of, private personnel and equipment necessary to remove to the maximum extent practicable a worst case discharge (including a discharge resulting from fire or explosion), and to mitigate or prevent a substantial threat of such a discharge;

"(iv) describe the training, equipment testing, periodic unannounced drills, and response actions of persons on the vessel or at the facility, to be carried out under the plan to ensure the safety of the vessel or facility and to mitigate or prevent the discharge, or the substantial threat of a discharge;

"(v) be updated periodically; and

"(vi) be resubmitted for approval of each significant change.

President of U.S.

"(D) With respect to any response plan submitted under this paragraph for an onshore facility that, because of its location, could reasonably be expected to cause significant and substantial harm to the environment by discharging into or on the navigable waters or adjoining shorelines or the exclusive economic zone, and with respect to each response plan submitted under this paragraph for a tank vessel or offshore facility, the President shall—

"(i) promptly review such response plan;

"(ii) require amendments to any plan that does not meet the requirements of this paragraph;

"(iii) approve any plan that meets the requirements of this paragraph; and

"(iv) review each plan periodically thereafter.

"(E) A tank vessel, offshore facility, or onshore facility required to prepare a response plan under this subsection may not handle, store, or transport oil unless—

"(i) in the case of a tank vessel, offshore facility, or onshore facility for which a response plan is reviewed by

the President under subparagraph (D), the plan has been approved by the President; and

"(ii) the vessel or facility is operating in compliance with the plan.

"(F) Notwithstanding subparagraph (E), the President may authorize a tank vessel, offshore facility, or onshore facility to operate without a response plan approved under this paragraph, until not later than 2 years after the date of the submission to the President of a plan for the tank vessel or facility, if the owner or operator certifies that the owner or operator has ensured by contract or other means approved by the President the availability of private personnel and equipment necessary to respond, to the maximum extent practicable, to a worst case discharge or a substantial threat of such a discharge.

"(G) The owner or operator of a tank vessel, offshore facility, or onshore facility may not claim as a defense to liability under title I of the Oil Pollution Act of 1990 that the owner or operator was acting in accordance with an approved response plan.

"(H) The Secretary shall maintain, in the Vessel Identification System established under chapter 125 of title 46, United States Code, the dates of approval and review of a response plan under this paragraph for each tank vessel that is a vessel of the United States.

"(6) EQUIPMENT REQUIREMENTS AND INSPECTION.—Not later than 2 years after the date of enactment of this section, the President shall require— President of U.S.

"(A) periodic inspection of containment booms, skimmers, vessels, and other major equipment used to remove discharges; and

"(B) vessels operating on navigable waters and carrying oil or a hazardous substance in bulk as cargo to carry appropriate removal equipment that employs the best technology economically feasible and that is compatible with the safe operation of the vessel.

"(7) AREA DRILLS.—The President shall periodically conduct drills of removal capability, without prior notice, in areas for which Area Contingency Plans are required under this subsection and under relevant tank vessel and facility response plans. The drills may include participation by Federal, State, and local agencies, the owners and operators of vessels and facilities in the area, and private industry. The President may publish annual reports on these drills, including assessments of the effectiveness of the plans and a list of amendments made to improve plans. President of U.S.

"(8) UNITED STATES GOVERNMENT NOT LIABLE.—The United States Government is not liable for any damages arising from its actions or omissions relating to any response plan required by this section.".

(b) IMPLEMENTATION.—

(1) AREA COMMITTEES AND CONTINGENCY PLANS.—(A) Not later than 6 months after the date of the enactment of this Act, the President shall designate the areas for which Area Committees are established under section 311(j)(4) of the Federal Water Pollution Control Act, as amended by this Act. In designating such areas, the President shall ensure that all navigable waters, adjoining shorelines, and waters of the exclusive economic zone are subject to an Area Contingency Plan under that section. 33 USC 1321 note. President of U.S.

(B) Not later than 18 months after the date of the enactment of this Act, each Area Committee established under that section shall submit to the President the Area Contingency Plan required under that section.

(C) Not later than 24 months after the date of the enactment of this Act, the President shall—

(i) promptly review each plan;

(ii) require amendments to any plan that does not meet the requirements of section 311(j)(4) of the Federal Water Pollution Control Act; and

(iii) approve each plan that meets the requirements of that section.

Establishment.

(2) NATIONAL RESPONSE UNIT.—Not later than one year after the date of the enactment of this Act, the Secretary of the department in which the Coast Guard is operating shall establish a National Response Unit in accordance with section 311(j)(2) of the Federal Water Pollution Control Act, as amended by this Act.

Establishment.

(3) COAST GUARD DISTRICT RESPONSE GROUPS.—Not later than 1 year after the date of the enactment of this Act, the Secretary of the department in which the Coast Guard is operating shall establish Coast Guard District Response Groups in accordance with section 311(j)(3) of the Federal Water Pollution Control Act, as amended by this Act.

President of U.S. Regulations.

(4) TANK VESSEL AND FACILITY RESPONSE PLANS; TRANSITION PROVISION; EFFECTIVE DATE OF PROHIBITION.—(A) Not later than 24 months after the date of the enactment of this Act, the President shall issue regulations for tank vessel and facility response plans under section 311(j)(5) of the Federal Water Pollution Control Act, as amended by this Act.

(B) During the period beginning 30 months after the date of the enactment of this paragraph and ending 36 months after that date of enactment, a tank vessel or facility for which a response plan is required to be prepared under section 311(j)(5) of the Federal Water Pollution Control Act, as amended by this Act, may not handle, store, or transport oil unless the owner or operator thereof has submitted such a plan to the President.

(C) Subparagraph (E) of section 311(j)(5) of the Federal Water Pollution Control Act, as amended by this Act, shall take effect 36 months after the date of the enactment of this Act.

(c) STATE LAW NOT PREEMPTED.— Section 311(o)(2) of the Federal Water Pollution Control Act (33 U.S.C. 1321(o)(2)) is amended by inserting before the period the following: ", or with respect to any removal activities related to such discharge".

14 USC 92 note.

SEC. 4203. COAST GUARD VESSEL DESIGN.

The Secretary shall ensure that vessels designed and constructed to replace Coast Guard buoy tenders are equipped with oil skimming systems that are readily available and operable, and that complement the primary mission of servicing aids to navigation.

SEC. 4204. DETERMINATION OF HARMFUL QUANTITIES OF OIL AND HAZARDOUS SUBSTANCES.

Section 311(b)(4) of the Federal Water Pollution Control Act (33 U.S.C. 1321(b)(4)) is amended by inserting "or the environment" after "the public health or welfare".

SEC. 4205. COASTWISE OIL SPILL RESPONSE COOPERATIVES.

Section 12106 of title 46, United States Code, is amended by adding at the end the following:

"(d)(1) A vessel may be issued a certificate of documentation with a coastwise endorsement if—

"(A) the vessel is owned by a not-for-profit oil spill response cooperative or by members of such a cooperative who dedicate the vessel to use by the cooperative;

"(B) the vessel is at least 50 percent owned by persons or entities described in section 12102(a) of this title;

"(C) the vessel otherwise qualifies under section 12106 to be employed in the coastwise trade; and

"(D) use of the vessel is restricted to—

"(i) the deployment of equipment, supplies, and personnel to recover, contain, or transport oil discharged into the navigable waters of the United States, or within the Exclusive Economic Zone, or

"(ii) for training exercises to prepare to respond to such a discharge.

"(2) For purposes of the first proviso of section 27 of the Merchant Marine Act, 1920, section 2 of the Shipping Act of 1916, and section 12102(a) of this title, a vessel meeting the criteria of this subsection shall be considered to be owned exclusively by citizens of the United States.".

Subtitle C—Penalties and Miscellaneous

SEC. 4301. FEDERAL WATER POLLUTION CONTROL ACT PENALTIES.

(a) NOTICE TO STATE AND FAILURE TO REPORT.—Section 311(b)(5) of the Federal Water Pollution Control Act (33 U.S.C. 1321(b)(5)) is amended—

(1) by inserting after the first sentence the following: "The Federal agency shall immediately notify the appropriate State agency of any State which is, or may reasonably be expected to be, affected by the discharge of oil or a hazardous substance.";

(2) by striking "fined not more than $10,000, or imprisoned for not more than one year, or both" and inserting "fined in accordance with title 18, United States Code, or imprisoned for not more than 5 years, or both"; and

(3) in the last sentence by—

(A) striking "or information obtained by the exploitation of such notification"; and

(B) inserting "natural" before "person".

(b) PENALTIES FOR DISCHARGES AND VIOLATIONS OF REGULATIONS.—Section 311(b) of the Federal Water Pollution Control Act (33 U.S.C. 1321(b)) is amended by striking paragraph (6) and inserting the following new paragraphs:

"(6) ADMINISTRATIVE PENALTIES.—

"(A) VIOLATIONS.—Any owner, operator, or person in charge of any vessel, onshore facility, or offshore facility—

"(i) from which oil or a hazardous substance is discharged in violation of paragraph (3), or

"(ii) who fails or refuses to comply with any regulation issued under subsection (j) to which that owner, operator, or person in charge is subject,

may be assessed a class I or class II civil penalty by the Secretary of the department in which the Coast Guard is operating or the Administrator.

"(B) CLASSES OF PENALTIES.—

"(i) CLASS I.—The amount of a class I civil penalty under subparagraph (A) may not exceed $10,000 per violation, except that the maximum amount of any class I civil penalty under this subparagraph shall not exceed $25,000. Before assessing a civil penalty under this clause, the Administrator or Secretary, as the case may be, shall give to the person to be assessed such penalty written notice of the Administrator's or Secretary's proposal to assess the penalty and the opportunity to request, within 30 days of the date the notice is received by such person, a hearing on the proposed penalty. Such hearing shall not be subject to section 554 or 556 of title 5, United States Code, but shall provide a reasonable opportunity to be heard and to present evidence.

"(ii) CLASS II.—The amount of a class II civil penalty under subparagraph (A) may not exceed $10,000 per day for each day during which the violation continues; except that the maximum amount of any class II civil penalty under this subparagraph shall not exceed $125,000. Except as otherwise provided in this subsection, a class II civil penalty shall be assessed and collected in the same manner, and subject to the same provisions, as in the case of civil penalties assessed and collected after notice and opportunity for a hearing on the record in accordance with section 554 of title 5, United States Code. The Administrator and Secretary may issue rules for discovery procedures for hearings under this paragraph.

"(C) RIGHTS OF INTERESTED PERSONS.—

"(i) PUBLIC NOTICE.—Before issuing an order assessing a class II civil penalty under this paragraph the Administrator or Secretary, as the case may be, shall provide public notice of and reasonable opportunity to comment on the proposed issuance of such order.

"(ii) PRESENTATION OF EVIDENCE.—Any person who comments on a proposed assessment of a class II civil penalty under this paragraph shall be given notice of any hearing held under this paragraph and of the order assessing such penalty. In any hearing held under this paragraph, such person shall have a reasonable opportunity to be heard and to present evidence.

Federal Register, publication.

"(iii) RIGHTS OF INTERESTED PERSONS TO A HEARING.—If no hearing is held under subparagraph (B) before issuance of an order assessing a class II civil penalty under this paragraph, any person who commented on the proposed assessment may petition, within 30 days after the issuance of such order, the Administrator or Secretary, as the case may be, to set aside such order and to provide a hearing on the penalty. If the evidence presented by the petitioner in support of the petition is material and was not considered in the issuance of the order, the Administrator or Secretary shall imme-

diately set aside such order and provide a hearing in accordance with subparagraph (B)(ii). If the Administrator or Secretary denies a hearing under this clause, the Administrator or Secretary shall provide to the petitioner, and publish in the Federal Register, notice of and the reasons for such denial.

"(D) FINALITY OF ORDER.—An order assessing a class II civil penalty under this paragraph shall become final 30 days after its issuance unless a petition for judicial review is filed under subparagraph (G) or a hearing is requested under subparagraph (C)(iii). If such a hearing is denied, such order shall become final 30 days after such denial.

"(E) EFFECT OF ORDER.—Action taken by the Administrator or Secretary, as the case may be, under this paragraph shall not affect or limit the Administrator's or Secretary's authority to enforce any provision of this Act; except that any violation—

"(i) with respect to which the Administrator or Secretary has commenced and is diligently prosecuting an action to assess a class II civil penalty under this paragraph, or

"(ii) for which the Administrator or Secretary has issued a final order assessing a class II civil penalty not subject to further judicial review and the violator has paid a penalty assessed under this paragraph,

shall not be the subject of a civil penalty action under section 309(d), 309(g), or 505 of this Act or under paragraph (7).

"(F) EFFECT OF ACTION ON COMPLIANCE.—No action by the Administrator or Secretary under this paragraph shall affect any person's obligation to comply with any section of this Act.

"(G) JUDICIAL REVIEW.—Any person against whom a civil penalty is assessed under this paragraph or who commented on the proposed assessment of such penalty in accordance with subparagraph (C) may obtain review of such assessment—

"(i) in the case of assessment of a class I civil penalty, in the United States District Court for the District of Columbia or in the district in which the violation is alleged to have occurred, or

District of Columbia.

"(ii) in the case of assessment of a class II civil penalty, in United States Court of Appeals for the District of Columbia Circuit or for any other circuit in which such person resides or transacts business,

by filing a notice of appeal in such court within the 30-day period beginning on the date the civil penalty order is issued and by simultaneously sending a copy of such notice by certified mail to the Administrator or Secretary, as the case may be, and the Attorney General. The Administrator or Secretary shall promptly file in such court a certified copy of the record on which the order was issued. Such court shall not set aside or remand such order unless there is not substantial evidence in the record, taken as a whole, to support the finding of a violation or unless the Administrator's or Secretary's assessment of the penalty constitutes an abuse of discretion and shall not impose additional civil

penalties for the same violation unless the Administrator's or Secretary's assessment of the penalty constitutes an abuse of discretion.

"(H) COLLECTION.—If any person fails to pay an assessment of a civil penalty—

"(i) after the assessment has become final, or

"(ii) after a court in an action brought under subparagraph (G) has entered a final judgment in favor of the Administrator or Secretary, as the case may be,

the Administrator or Secretary shall request the Attorney General to bring a civil action in an appropriate district court to recover the amount assessed (plus interest at currently prevailing rates from the date of the final order or the date of the final judgment, as the case may be). In such an action, the validity, amount, and appropriateness of such penalty shall not be subject to review. Any person who fails to pay on a timely basis the amount of an assessment of a civil penalty as described in the first sentence of this subparagraph shall be required to pay, in addition to such amount and interest, attorneys fees and costs for collection proceedings and a quarterly nonpayment penalty for each quarter during which such failure to pay persists. Such nonpayment penalty shall be in an amount equal to 20 percent of the aggregate amount of such person's penalties and nonpayment penalties which are unpaid as of the beginning of such quarter.

"(I) SUBPOENAS.—The Administrator or Secretary, as the case may be, may issue subpoenas for the attendance and testimony of witnesses and the production of relevant papers, books, or documents in connection with hearings under this paragraph. In case of contumacy or refusal to obey a subpoena issued pursuant to this subparagraph and served upon any person, the district court of the United States for any district in which such person is found, resides, or transacts business, upon application by the United States and after notice to such person, shall have jurisdiction to issue an order requiring such person to appear and give testimony before the administrative law judge or to appear and produce documents before the administrative law judge, or both, and any failure to obey such order of the court may be punished by such court as a contempt thereof.

Hazardous materials.

"(7) CIVIL PENALTY ACTION.—

"(A) DISCHARGE, GENERALLY.—Any person who is the owner, operator, or person in charge of any vessel, onshore facility, or offshore facility from which oil or a hazardous substance is discharged in violation of paragraph (3), shall be subject to a civil penalty in an amount up to $25,000 per day of violation or an amount up to $1,000 per barrel of oil or unit of reportable quantity of hazardous substances discharged.

"(B) FAILURE TO REMOVE OR COMPLY.—Any person described in subparagraph (A) who, without sufficient cause—

"(i) fails to properly carry out removal of the discharge under an order of the President pursuant to subsection (c); or

"(ii) fails to comply with an order pursuant to subsection (e)(1)(B);

shall be subject to a civil penalty in an amount up to $25,000 per day of violation or an amount up to 3 times the costs incurred by the Oil Spill Liability Trust Fund as a result of such failure.

"(C) FAILURE TO COMPLY WITH REGULATION.—Any person who fails or refuses to comply with any regulation issued under subsection (j) shall be subject to a civil penalty in an amount up to $25,000 per day of violation.

"(D) GROSS NEGLIGENCE.—In any case in which a violation of paragraph (3) was the result of gross negligence or willful misconduct of a person described in subparagraph (A), the person shall be subject to a civil penalty of not less than $100,000, and not more than $3,000 per barrel of oil or unit of reportable quantity of hazardous substance discharged.

"(E) JURISDICTION.—An action to impose a civil penalty under this paragraph may be brought in the district court of the United States for the district in which the defendant is located, resides, or is doing business, and such court shall have jurisdiction to assess such penalty. Courts, U.S.

"(F) LIMITATION.—A person is not liable for a civil penalty under this paragraph for a discharge if the person has been assessed a civil penalty under paragraph (6) for the discharge.

"(8) DETERMINATION OF AMOUNT.—In determining the amount of a civil penalty under paragraphs (6) and (7), the Administrator, Secretary, or the court, as the case may be, shall consider the seriousness of the violation or violations, the economic benefit to the violator, if any, resulting from the violation, the degree of culpability involved, any other penalty for the same incident, any history of prior violations, the nature, extent, and degree of success of any efforts of the violator to minimize or mitigate the effects of the discharge, the economic impact of the penalty on the violator, and any other matters as justice may require.

"(9) MITIGATION OF DAMAGE.—In addition to establishing a penalty for the discharge of oil or a hazardous substance, the Administrator or the Secretary of the department in which the Coast Guard is operating may act to mitigate the damage to the public health or welfare caused by such discharge. The cost of such mitigation shall be deemed a cost incurred under subsection (c) of this section for the removal of such substance by the United States Government. Hazardous materials.

"(10) RECOVERY OF REMOVAL COSTS.—Any costs of removal incurred in connection with a discharge excluded by subsection (a)(2)(C) of this section shall be recoverable from the owner or operator of the source of the discharge in an action brought under section 309(b) of this Act.

"(11) LIMITATION.—Civil penalties shall not be assessed under both this section and section 309 for the same discharge.".

(c) CRIMINAL PENALTIES.—Section 309(c) of the Federal Water Pollution Control Act (33 U.S.C. 1319(c)) is amended by inserting after "308," each place it appears the following: "311(b)(3),".

SEC. 4302. OTHER PENALTIES.

(a) NEGLIGENT OPERATIONS.—Section 2302 of title 46, United States Code, is amended—

(1) in subsection (b) by striking "shall be fined not more than $5,000, imprisoned for not more than one year, or both.", and inserting "commits a class A misdemeanor."; and

(2) in subsection (c)—

(A) by striking ", shall be" in the matter preceding paragraph (1);

(B) by inserting "is" before "liable" in paragraph (1); and

(C) by amending paragraph (2) to read as follows:

"(2) commits a class A misdemeanor.".

(b) INSPECTIONS.—Section 3318 of title 46, United States Code, is amended—

(1) in subsection (b) by striking "shall be fined not more than $10,000, imprisoned for not more than 5 years, or both." and inserting "commits a class D felony.";

(2) in subsection (c) by striking "shall be fined not more than $5,000, imprisoned for not more than 5 years, or both." and inserting "commits a class D felony.";

(3) in subsection (d) by striking "shall be fined not more than $5,000, imprisoned for not more than 5 years, or both." and inserting "commits a class D felony.";

(4) in subsection (e) by striking "shall be fined not more than $10,000, imprisoned for not more than 2 years, or both." and inserting "commits a class A misdemeanor."; and

(5) in the matter preceding paragraph (1) of subsection (f) by striking "shall be fined not less than $1,000 but not more than $10,000, and imprisoned for not less than 2 years but not more than 5 years," and inserting "commits a class D felony.".

(c) CARRIAGE OF LIQUID BULK DANGEROUS CARGOES.—Section 3718 of title 46, United States Code, is amended—

(1) in subsection (b) by striking "shall be fined not more than $50,000, imprisoned for not more than 5 years, or both." and inserting "commits a class D felony."; and

(2) in subsection (c) by striking "shall be fined not more than $100,000, imprisoned for not more than 10 years, or both." and inserting "commits a class C felony.".

(d) LOAD LINES.—Section 5116 of title 46, United States Code, is amended—

(1) in subsection (d) by striking "shall be fined not more than $10,000, imprisoned for not more than one year, or both." and inserting "commits a class A misdemeanor."; and

(2) in subsection (e) by striking "shall be fined not more than $10,000, imprisoned for not more than 2 years, or both." and inserting "commits a class A misdemeanor.".

(e) COMPLEMENT OF INSPECTED VESSELS.—Section 8101 of title 46, United States Code, is amended—

(1) in subsection (e) by striking "$50" and inserting "$1,000";

(2) in subsection (f) by striking "$100, or, for a deficiency of a licensed individual, a penalty of $500." and inserting "$10,000."; and

(3) in subsection (g) by striking "$500." and inserting "$10,000.".

(f) WATCHES.—Section 8104 of title 46, United States Code, is amended—

(1) in subsection (i) by striking "$100." and inserting "$10,000."; and

(2) in subsection (j) by striking "$500." and inserting "$10,000.".

(g) COASTWISE PILOTAGE.—Section 8502 of title 46, United States Code, is amended—

(1) in subsection (e) by striking "$500." and inserting "$10,000."; and

(2) in subsection (f) by striking "$500." and inserting "$10,000.".

(h) FOREIGN COMMERCE PILOTAGE.—Section 8503(e) of title 46, United States Code, is amended by striking "shall be fined not more than $50,000, imprisoned for not more than five years, or both." and inserting "commits a class D felony.".

(i) CREW REQUIREMENTS.—Section 8702(e) of title 46, United States Code, is amended by striking "$500." and inserting "$10,000.".

(j) PORTS AND WATERWAYS SAFETY ACT.—Section 13(b) of the Port and Waterways Safety Act (33 U.S.C. 1232(b)) is amended—

(1) in paragraph (1) by striking "shall be fined not more than $50,000 for each violation or imprisoned for not more than five years, or both." and inserting "commits a class D felony."; and

(2) in paragraph (2) by striking "shall, in lieu of the penalties prescribed in paragraph (1), be fined not more than $100,000, or imprisoned for not more than 10 years, or both." and inserting "commits a class C felony.".

(k) VESSEL NAVIGATION.—Section 4 of the Act of April 28, 1908 (33 U.S.C. 1236) is amended—

(1) in subsection (b) by striking "$500." and inserting "$5,000.";

(2) in subsection (c) by striking "$500," and inserting "$5,000,"; and

(3) in subsection (d) by striking "$250." and inserting "$2,500.".

(l) INTERVENTION ON THE HIGH SEAS ACT.—Section 12(a) of the Intervention of the High Seas Act (33 U.S.C. 1481(a)) is amended—

(1) in the matter preceding paragraph (1) by striking "Any person who" and inserting "A person commits a class A misdemeanor if that person"; and

(2) in paragraph (3) by striking ", shall be fined not more than $10,000 or imprisoned not more than one year, or both".

(m) DEEPWATER PORT ACT OF 1974.—Section 15(a) of the Deepwater Port Act of 1974 (33 U.S.C. 1514(a)) is amended by striking "shall on conviction be fined not more than $25,000 for each day of violation or imprisoned for not more than 1 year, or both." and inserting "commits a class A misdemeanor for each day of violation.".

(n) ACT TO PREVENT POLLUTION FROM SHIPS.—Section 9(a) of the Act to Prevent Pollution from Ships (33 U.S.C. 1908(a)) is amended by striking "shall, for each violation, be fined not more than $50,000 or be imprisoned for not more than 5 years, or both." and inserting "commits a class D felony.".

SEC. 4303. FINANCIAL RESPONSIBILITY CIVIL PENALTIES.

President of U.S.
33 USC 2716a.

(a) ADMINISTRATIVE.—Any person who, after notice and an opportunity for a hearing, is found to have failed to comply with the requirements of section 1016 or the regulations issued under that section, or with a denial or detention order issued under subsection (c)(2) of that section, shall be liable to the United States for a civil penalty, not to exceed $25,000 per day of violation. The amount of the civil penalty shall be assessed by the President by written notice. In determining the amount of the penalty, the President

shall take into account the nature, circumstances, extent, and gravity of the violation, the degree of culpability, any history of prior violation, ability to pay, and such other matters as justice may require. The President may compromise, modify, or remit, with or without conditions, any civil penalty which is subject to imposition or which had been imposed under this paragraph. If any person fails to pay an assessed civil penalty after it has become final, the President may refer the matter to the Attorney General for collection.

(b) JUDICIAL.—In addition to, or in lieu of, assessing a penalty under subsection (a), the President may request the Attorney General to secure such relief as necessary to compel compliance with this section 1016, including a judicial order terminating operations. The district courts of the United States shall have jurisdiction to grant any relief as the public interest and the equities of the case may require.

26 USC 9509 note.

SEC. 4304. DEPOSIT OF CERTAIN PENALTIES INTO OIL SPILL LIABILITY TRUST FUND.

Penalties paid pursuant to section 311 of the Federal Water Pollution Control Act, section 309(c) of that Act, as a result of violations of section 311 of that Act, and the Deepwater Port Act of 1974, shall be deposited in the Oil Spill Liability Trust Fund created under section 9509 of the Internal Revenue Code of 1986 (26 U.S.C. 9509).

SEC. 4305. INSPECTION AND ENTRY.

Section 311(m) of the Federal Water Pollution Control Act (33 U.S.C. 1321(m)) is amended to read as follows:

"(m) ADMINISTRATIVE PROVISIONS.—

"(1) FOR VESSELS.—Anyone authorized by the President to enforce the provisions of this section with respect to any vessel may, except as to public vessels—

"(A) board and inspect any vessel upon the navigable waters of the United States or the waters of the contiguous zone,

"(B) with or without a warrant, arrest any person who in the presence or view of the authorized person violates the provisions of this section or any regulation issued thereunder, and

"(C) execute any warrant or other process issued by an officer or court of competent jurisdiction.

"(2) FOR FACILITIES.—

Reports. Records.

"(A) RECORDKEEPING.—Whenever required to carry out the purposes of this section, the Administrator or the Secretary of the Department in which the Coast Guard is operating shall require the owner or operator of a facility to which this section applies to establish and maintain such records, make such reports, install, use, and maintain such monitoring equipment and methods, and provide such other information as the Administrator or Secretary, as the case may be, may require to carry out the objectives of this section.

"(B) ENTRY AND INSPECTION.—Whenever required to carry out the purposes of this section, the Administrator or the Secretary of the Department in which the Coast Guard is operating or an authorized representative of the Adminis-

trator or Secretary, upon presentation of appropriate credentials, may—

"(i) enter and inspect any facility to which this section applies, including any facility at which any records are required to be maintained under subparagraph (A); and

"(ii) at reasonable times, have access to and copy any records, take samples, and inspect any monitoring equipment or methods required under subparagraph (A).

"(C) ARRESTS AND EXECUTION OF WARRANTS.—Anyone authorized by the Administrator or the Secretary of the department in which the Coast Guard is operating to enforce the provisions of this section with respect to any facility may—

"(i) with or without a warrant, arrest any person who violates the provisions of this section or any regulation issued thereunder in the presence or view of the person so authorized; and

"(ii) execute any warrant or process issued by an officer or court of competent jurisdiction.

"(D) PUBLIC ACCESS.—Any records, reports, or information obtained under this paragraph shall be subject to the same public access and disclosure requirements which are applicable to records, reports, and information obtained pursuant to section 308.".

SEC. 4306. CIVIL ENFORCEMENT UNDER FEDERAL WATER POLLUTION CONTROL ACT.

Section 311(e) of the Federal Water Pollution Control Act (33 U.S.C. 1321) is amended to read as follows:

"(e) CIVIL ENFORCEMENT.—

State and local governments.

"(1) ORDERS PROTECTING PUBLIC HEALTH.—In addition to any action taken by a State or local government, when the President determines that there may be an imminent and substantial threat to the public health or welfare of the United States, including fish, shellfish, and wildlife, public and private property, shorelines, beaches, habitat, and other living and nonliving natural resources under the jurisdiction or control of the United States, because of an actual or threatened discharge of oil or a hazardous substance from a vessel or facility in violation of subsection (b), the President may—

"(A) require the Attorney General to secure any relief from any person, including the owner or operator of the vessel or facility, as may be necessary to abate such endangerment; or

"(B) after notice to the affected State, take any other action under this section, including issuing administrative orders, that may be necessary to protect the public health and welfare.

"(2) JURISDICTION OF DISTRICT COURTS.—The district courts of the United States shall have jurisdiction to grant any relief under this subsection that the public interest and the equities of the case may require.".

Alaska.
Research and development.

TITLE V—PRINCE WILLIAM SOUND PROVISIONS

33 USC 2731.

SEC. 5001. OIL SPILL RECOVERY INSTITUTE.

(a) ESTABLISHMENT OF INSTITUTE.—The Secretary of Commerce shall provide for the establishment of a Prince William Sound Oil Spill Recovery Institute (hereinafter in this section referred to as the "Institute") to be administered by the Secretary of Commerce through the Prince William Sound Science and Technology Institute and located in Cordova, Alaska.

(b) FUNCTIONS.—The Institute shall conduct research and carry out educational and demonstration projects designed to—

(1) identify and develop the best available techniques, equipment, and materials for dealing with oil spills in the arctic and subarctic marine environment; and

(2) complement Federal and State damage assessment efforts and determine, document, assess, and understand the long-range effects of the EXXON VALDEZ oil spill on the natural resources of Prince William Sound and its adjacent waters (as generally depicted on the map entitled "EXXON VALDEZ oil spill dated March 1990"), and the environment, the economy, and the lifestyle and well-being of the people who are dependent on them, except that the Institute shall not conduct studies or make recommendations on any matter which is not directly related to the EXXON VALDEZ oil spill or the effects thereof.

(c) ADVISORY BOARD.—

(1) IN GENERAL.—The policies of the Institute shall be determined by an advisory board, composed of 18 members appointed as follows:

(A) One representative appointed by each of the Commissioners of Fish and Game, Environmental Conservation, Natural Resources, and Commerce and Economic Development of the State of Alaska, all of whom shall be State employees.

(B) One representative appointed by each of—

(i) the Secretaries of Commerce, the Interior, Agriculture, Transportation, and the Navy; and

(ii) the Administrator of the Environmental Protection Agency;

all of whom shall be Federal employees.

(C) 4 representatives appointed by the Secretary of Commerce from among residents of communities in Alaska that were affected by the EXXON VALDEZ oil spill who are knowledgeable about fisheries, other local industries, the marine environment, wildlife, public health, safety, or education. At least 2 of the representatives shall be appointed from among residents of communities located in Prince William Sound. The Secretary shall appoint residents to serve terms of 2 years each, from a list of 8 qualified individuals to be submitted by the Governor of the State of Alaska based on recommendations made by the governing body of each affected community. Each affected community may submit the names of 2 qualified individuals for the Governor's consideration. No more than 5 of the 8 qualified

persons recommended by the Governor shall be members of the same political party.

(D) 3 Alaska Natives who represent Native entities affected by the EXXON VALDEZ oil spill, at least one of whom represents an entity located in Prince William Sound, to serve terms of 2 years each from a list of 6 qualified individuals submitted by the Alaska Federation of Natives.

(E) One nonvoting representative of the Institute of Marine Science.

(F) One nonvoting representative appointed by the Prince William Sound Science and Technology Institute.

(2) CHAIRMAN.—The representative of the Secretary of Commerce shall serve as Chairman of the Advisory Board.

(3) POLICIES.—Policies determined by the Advisory Board under this subsection shall include policies for the conduct and support, through contracts and grants awarded on a nationally competitive basis, of research, projects, and studies to be supported by the Institute in accordance with the purposes of this section.

(d) SCIENTIFIC AND TECHNICAL COMMITTEE.— Establishment.

(1) IN GENERAL.—The Advisory Board shall establish a scientific and technical committee, composed of specialists in matters relating to oil spill containment and cleanup technology, arctic and subarctic marine ecology, and the living resources and socioeconomics of Prince William Sound and its adjacent waters, from the University of Alaska, the Institute of Marine Science, the Prince William Sound Science and Technology Institute, and elsewhere in the academic community.

(2) FUNCTIONS.—The Scientific and Technical Committee shall provide such advice to the Advisory Board as the Advisory Board shall request, including recommendations regarding the conduct and support of research, projects, and studies in accordance with the purposes of this section. The Advisory Board shall not request, and the Committee shall not provide, any advice which is not directly related to the EXXON VALDEZ oil spill or the effects thereof.

(e) DIRECTOR.—The Institute shall be administered by a Director appointed by the Secretary of Commerce. The Prince William Sound Science and Technology Institute, the Advisory Board, and the Scientific and Technical Committee may each submit independent recommendations for the Secretary's consideration for appointment as Director. The Director may hire such staff and incur such expenses on behalf of the Institute as are authorized by the Advisory Board.

(f) EVALUATION.—The Secretary of Commerce may conduct an ongoing evaluation of the activities of the Institute to ensure that funds received by the Institute are used in a manner consistent with this section.

(g) AUDIT.—The Comptroller General of the United States, and any of his or her duly authorized representatives, shall have access, for purposes of audit and examination, to any books, documents, papers, and records of the Institute and its administering agency that are pertinent to the funds received and expended by the Institute and its administering agency.

(h) STATUS OF EMPLOYEES.—Employees of the Institute shall not, by reason of such employment, be considered to be employees of the Federal Government for any purpose.

(i) TERMINATION.—The Institute shall terminate 10 years after the date of the enactment of this Act.

(j) USE OF FUNDS.—All funds authorized for the Institute shall be provided through the National Oceanic and Atmospheric Administration. No funds made available to carry out this section may be used to initiate litigation. No funds made available to carry out this section may be used for the acquisition of real property (including buildings) or construction of any building. No more than 20 percent of funds made available to carry out this section may be used to lease necessary facilities and to administer the Institute. None of the funds authorized by this section shall be used for any purpose other than the functions specified in subsection (b).

Public information.

(k) RESEARCH.—The Institute shall publish and make available to any person upon request the results of all research, educational, and demonstration projects conducted by the Institute. The Administrator shall provide a copy of all research, educational, and demonstration projects conducted by the Institute to the National Oceanic and Atmospheric Administration.

(l) DEFINITIONS.—In this section, the term "Prince William Sound and its adjacent waters" means such sound and waters as generally depicted on the map entitled "EXXON VALDEZ oil spill dated March 1990".

Oil Terminal and Oil Tanker Environmental Oversight and Monitoring Act of 1990.
33 USC 2732.

SEC. 5002. TERMINAL AND TANKER OVERSIGHT AND MONITORING.

(a) SHORT TITLE AND FINDINGS.—

(1) SHORT TITLE.—This section may be cited as the "Oil Terminal and Oil Tanker Environmental Oversight and Monitoring Act of 1990".

(2) FINDINGS.—The Congress finds that—

(A) the March 24, 1989, grounding and rupture of the fully loaded oil tanker, the EXXON VALDEZ, spilled 11 million gallons of crude oil in Prince William Sound, an environmentally sensitive area;

(B) many people believe that complacency on the part of the industry and government personnel responsible for monitoring the operation of the Valdez terminal and vessel traffic in Prince William Sound was one of the contributing factors to the EXXON VALDEZ oil spill;

(C) one way to combat this complacency is to involve local citizens in the process of preparing, adopting, and revising oil spill contingency plans;

(D) a mechanism should be established which fosters the long-term partnership of industry, government, and local communities in overseeing compliance with environmental concerns in the operation of crude oil terminals;

(E) such a mechanism presently exists at the Sullom Voe terminal in the Shetland Islands and this terminal should serve as a model for others;

(F) because of the effective partnership that has developed at Sullom Voe, Sullom Voe is considered the safest terminal in Europe;

(G) the present system of regulation and oversight of crude oil terminals in the United States has degenerated into a process of continual mistrust and confrontation;

(H) only when local citizens are involved in the process will the trust develop that is necessary to change the present system from confrontation to consensus;

(I) a pilot program patterned after Sullom Voe should be established in Alaska to further refine the concepts and relationships involved; and

(J) similar programs should eventually be established in other major crude oil terminals in the United States because the recent oil spills in Texas, Delaware, and Rhode Island indicate that the safe transportation of crude oil is a national problem.

(b) DEMONSTRATION PROGRAMS.—

(1) ESTABLISHMENT.—There are established 2 Oil Terminal and Oil Tanker Environmental Oversight and Monitoring Demonstration Programs (hereinafter referred to as "Programs") to be carried out in the State of Alaska.

(2) ADVISORY FUNCTION.—The function of these Programs shall be advisory only.

(3) PURPOSE.—The Prince William Sound Program shall be responsible for environmental monitoring of the terminal facilities in Prince William Sound and the crude oil tankers operating in Prince William Sound. The Cook Inlet Program shall be responsible for environmental monitoring of the terminal facilities and crude oil tankers operating in Cook Inlet located South of the latitude at Point Possession and North of the latitude at Amatuli Island, including offshore facilities in Cook Inlet.

(4) SUITS BARRED.—No program, association, council, committee or other organization created by this section may sue any person or entity, public or private, concerning any matter arising under this section except for the performance of contracts.

(c) OIL TERMINAL FACILITIES AND OIL TANKER OPERATIONS ASSOCIATION.—

(1) ESTABLISHMENT.—There is established an Oil Terminal Facilities and Oil Tanker Operations Association (hereinafter in this section referred to as the "Association") for each of the Programs established under subsection (b).

(2) MEMBERSHIP.—Each Association shall be comprised of 4 individuals as follows:

(A) One individual shall be designated by the owners and operators of the terminal facilities and shall represent those owners and operators.

(B) One individual shall be designated by the owners and operators of the crude oil tankers calling at the terminal facilities and shall represent those owners and operators.

(C) One individual shall be an employee of the State of Alaska, shall be designated by the Governor of the State of Alaska, and shall represent the State government.

(D) One individual shall be an employee of the Federal Government, shall be designated by the President, and shall represent the Federal Government.

(3) RESPONSIBILITIES.—Each Association shall be responsible for reviewing policies relating to the operation and maintenance of the oil terminal facilities and crude oil tankers which affect or may affect the environment in the vicinity of their respective terminals. Each Association shall provide a forum among the owners and operators of the terminal facilities, the owners and operators of crude oil tankers calling at those

facilities, the United States, and the State of Alaska to discuss and to make recommendations concerning all permits, plans, and site-specific regulations governing the activities and actions of the terminal facilities which affect or may affect the environment in the vicinity of the terminal facilities and of crude oil tankers calling at those facilities.

(4) DESIGNATION OF EXISTING ORGANIZATION.—The Secretary may designate an existing nonprofit organization as an Association under this subsection if the organization is organized to meet the purposes of this section and consists of at least the individuals listed in paragraph (2).

(d) REGIONAL CITIZENS' ADVISORY COUNCILS.—

(1) MEMBERSHIP.—There is established a Regional Citizens' Advisory Council (hereinafter in this section referred to as the "Council") for each of the programs established by subsection (b).

(2) MEMBERSHIP.—Each Council shall be composed of voting members and nonvoting members, as follows:

(A) VOTING MEMBERS.—Voting members shall be Alaska residents and, except as provided in clause (vii) of this paragraph, shall be appointed by the Governor of the State of Alaska from a list of nominees provided by each of the following interests, with one representative appointed to represent each of the following interests, taking into consideration the need for regional balance on the Council:

(i) Local commercial fishing industry organizations, the members of which depend on the fisheries resources of the waters in the vicinity of the terminal facilities.

(ii) Aquaculture associations in the vicinity of the terminal facilities.

(iii) Alaska Native Corporations and other Alaska Native organizations the members of which reside in the vicinity of the terminal facilities.

(iv) Environmental organizations the members of which reside in the vicinity of the terminal facilities.

(v) Recreational organizations the members of which reside in or use the vicinity of the terminal facilities.

(vi) The Alaska State Chamber of Commerce, to represent the locally based tourist industry.

(vii)(I) For the Prince William Sound Terminal Facilities Council, one representative selected by each of the following municipalities: Cordova, Whittier, Seward, Valdez, Kodiak, the Kodiak Island Borough, and the Kenai Peninsula Borough.

(II) For the Cook Inlet Terminal Facilities Council, one representative selected by each of the following municipalities: Homer, Seldovia, Anchorage, Kenai, Kodiak, the Kodiak Island Borough, and the Kenai Peninsula Borough.

(B) NONVOTING MEMBERS.—One ex-officio, nonvoting representative shall be designated by, and represent, each of the following:

(i) The Environmental Protection Agency.

(ii) The Coast Guard.

(iii) The National Oceanic and Atmospheric Administration.

(iv) The United States Forest Service.

(v) The Bureau of Land Management.

(vi) The Alaska Department of Environmental Conservation.

(vii) The Alaska Department of Fish and Game.

(viii) The Alaska Department of Natural Resources.

(ix) The Division of Emergency Services, Alaska Department of Military and Veterans Affairs.

(3) TERMS.—

(A) DURATION OF COUNCILS.—The term of the Councils shall continue throughout the life of the operation of the Trans-Alaska Pipeline System and so long as oil is transported to or from Cook Inlet.

(B) THREE YEARS.—The voting members of each Council shall be appointed for a term of 3 years except as provided for in subparagraph (C).

(C) INITIAL APPOINTMENTS.—The terms of the first appointments shall be as follows:

(i) For the appointments by the Governor of the State of Alaska, one-third shall serve for 3 years, one-third shall serve for 2 years, and one-third shall serve for one year.

(ii) For the representatives of municipalities required by subsection (d)(2)(A)(vii), a drawing of lots among the appointees shall determine that one-third of that group serves for 3 years, one-third serves for 2 years, and the remainder serves for 1 year.

(4) SELF-GOVERNING.—Each Council shall elect its own chairperson, select its own staff, and make policies with regard to its internal operating procedures. After the initial organizational meeting called by the Secretary under subsection (i), each Council shall be self-governing.

(5) DUAL MEMBERSHIP AND CONFLICTS OF INTEREST PROHIBITED.—(A) No individual selected as a member of the Council shall serve on the Association.

(B) No individual selected as a voting member of the Council shall be engaged in any activity which might conflict with such individual carrying out his functions as a member thereof.

(6) DUTIES.—Each Council shall—

(A) provide advice and recommendations to the Association on policies, permits, and site-specific regulations relating to the operation and maintenance of terminal facilities and crude oil tankers which affect or may affect the environment in the vicinity of the terminal facilities;

(B) monitor through the committee established under subsection (e), the environmental impacts of the operation of the terminal facilities and crude oil tankers;

(C) monitor those aspects of terminal facilities' and crude oil tankers' operations and maintenance which affect or may affect the environment in the vicinity of the terminal facilities;

(D) review through the committee established under subsection (f), the adequacy of oil spill prevention and contingency plans for the terminal facilities and the adequacy of oil spill prevention and contingency plans for crude oil tankers, operating in Prince William Sound or in Cook Inlet;

(E) provide advice and recommendations to the Association on port operations, policies and practices;

(F) recommend to the Association—

(i) standards and stipulations for permits and site-specific regulations intended to minimize the impact of the terminal facilities' and crude oil tankers' operations in the vicinity of the terminal facilities;

(ii) modifications of terminal facility operations and maintenance intended to minimize the risk and mitigate the impact of terminal facilities, operations in the vicinity of the terminal facilities and to minimize the risk of oil spills;

(iii) modifications of crude oil tanker operations and maintenance in Prince William Sound and Cook Inlet intended to minimize the risk and mitigate the impact of oil spills; and

(iv) modifications to the oil spill prevention and contingency plans for terminal facilities and for crude oil tankers in Prince William Sound and Cook Inlet intended to enhance the ability to prevent and respond to an oil spill; and

(G) create additional committees of the Council as necessary to carry out the above functions, including a scientific and technical advisory committee to the Prince William Sound Council.

(7) NO ESTOPPEL.—No Council shall be held liable under State or Federal law for costs or damages as a result of rendering advice under this section. Nor shall any advice given by a voting member of a Council, or program representative or agent, be grounds for estopping the interests represented by the voting Council members from seeking damages or other appropriate relief.

(8) SCIENTIFIC WORK.—In carrying out its research, development and monitoring functions, each Council is authorized to conduct its own scientific research and shall review the scientific work undertaken by or on behalf of the terminal operators or crude oil tanker operators as a result of a legal requirement to undertake that work. Each Council shall also review the relevant scientific work undertaken by or on behalf of any government entity relating to the terminal facilities or crude oil tankers. To the extent possible, to avoid unnecessary duplication, each Council shall coordinate its independent scientific work with the scientific work performed by or on behalf of the terminal operators and with the scientific work performed by or on behalf of the operators of the crude oil tankers.

(e) COMMITTEE FOR TERMINAL AND OIL TANKER OPERATIONS AND ENVIRONMENTAL MONITORING.—

(1) MONITORING COMMITTEE.—Each Council shall establish a standing Terminal and Oil Tanker Operations and Environmental Monitoring Committee (hereinafter in this section referred to as the "Monitoring Committee") to devise and manage a comprehensive program of monitoring the environmental impacts of the operations of terminal facilities and of crude oil tankers while operating in Prince William Sound and Cook Inlet. The membership of the Monitoring Committee shall be made up of members of the Council, citizens, and recognized scientific experts selected by the Council.

(2) DUTIES.—In fulfilling its responsibilities, the Monitoring Committee shall—

(A) advise the Council on a monitoring strategy that will permit early detection of environmental impacts of terminal facility operations and crude oil tanker operations while in Prince William Sound and Cook Inlet;

(B) develop monitoring programs and make recommendations to the Council on the implementation of those programs;

(C) at its discretion, select and contract with universities and other scientific institutions to carry out specific monitoring projects authorized by the Council pursuant to an approved monitoring strategy;

(D) complete any other tasks assigned by the Council; and

(E) provide written reports to the Council which interpret and assess the results of all monitoring programs. Reports.

(f) COMMITTEE FOR OIL SPILL PREVENTION, SAFETY, AND EMERGENCY RESPONSE.—

(1) TECHNICAL OIL SPILL COMMITTEE.—Each Council shall establish a standing technical committee (hereinafter referred to as "Oil Spill Committee") to review and assess measures designed to prevent oil spills and the planning and preparedness for responding to, containing, cleaning up, and mitigating impacts of oil spills. The membership of the Oil Spill Committee shall be made up of members of the Council, citizens, and recognized technical experts selected by the Council.

(2) DUTIES.—In fulfilling its responsibilities, the Oil Spill Committee shall—

(A) periodically review the respective oil spill prevention and contingency plans for the terminal facilities and for the crude oil tankers while in Prince William Sound or Cook Inlet, in light of new technological developments and changed circumstances;

(B) monitor periodic drills and testing of the oil spill contingency plans for the terminal facilities and for crude oil tankers while in Prince William Sound and Cook Inlet;

(C) study wind and water currents and other environmental factors in the vicinity of the terminal facilities which may affect the ability to prevent, respond to, contain, and clean up an oil spill;

(D) identify highly sensitive areas which may require specific protective measures in the event of a spill in Prince William Sound or Cook Inlet;

(E) monitor developments in oil spill prevention, containment, response, and cleanup technology;

(F) periodically review port organization, operations, incidents, and the adequacy and maintenance of vessel traffic service systems designed to assure safe transit of crude oil tankers pertinent to terminal operations;

(G) periodically review the standards for tankers bound for, loading at, exiting from, or otherwise using the terminal facilities;

(H) complete any other tasks assigned by the Council; and Reports.

(I) provide written reports to the Council outlining its findings and recommendations.

(g) AGENCY COOPERATION.—On and after the expiration of the 180-day period following the date of the enactment of this section, each

Federal department, agency, or other instrumentality shall, with respect to all permits, site-specific regulations, and other matters governing the activities and actions of the terminal facilities which affect or may affect the vicinity of the terminal facilities, consult with the appropriate Council prior to taking substantive action with respect to the permit, site-specific regulation, or other matter. This consultation shall be carried out with a view to enabling the appropriate Association and Council to review the permit, site-specific regulation, or other matters and make appropriate recommendations regarding operations, policy or agency actions. Prior consultation shall not be required if an authorized Federal agency representative reasonably believes that an emergency exists requiring action without delay.

(h) RECOMMENDATIONS OF THE COUNCIL.—In the event that the Association does not adopt, or significantly modifies before adoption, any recommendation of the Council made pursuant to the authority granted to the Council in subsection (d), the Association shall provide to the Council, in writing, within 5 days of its decision, notice of its decision and a written statement of reasons for its rejection or significant modification of the recommendation.

(i) ADMINISTRATIVE ACTIONS.—Appointments, designations, and selections of individuals to serve as members of the Associations and Councils under this section shall be submitted to the Secretary prior to the expiration of the 120-day period following the date of the enactment of this section. On or before the expiration of the 180-day period following that date of enactment of this section, the Secretary shall call an initial meeting of each Association and Council for organizational purposes.

(j) LOCATION AND COMPENSATION.—

(1) LOCATION.—Each Association and Council established by this section shall be located in the State of Alaska.

(2) COMPENSATION.—No member of an Association or Council shall be compensated for the member's services as a member of the Association or Council, but shall be allowed travel expenses, including per diem in lieu of subsistence, at a rate established by the Association or Council not to exceed the rates authorized for employees of agencies under sections 5702 and 5703 of title 5, United States Code. However, each Council may enter into contracts to provide compensation and expenses to members of the committees created under subsections (d), (e), and (f).

(k) FUNDING.—

(1) REQUIREMENT.—Approval of the contingency plans required of owners and operators of the Cook Inlet and Prince William Sound terminal facilities and crude oil tankers while operating in Alaskan waters in commerce with those terminal facilities shall be effective only so long as the respective Association and Council for a facility are funded pursuant to paragraph (2).

(2) PRINCE WILLIAM SOUND PROGRAM.—The owners or operators of terminal facilities or crude oil tankers operating in Prince William Sound shall provide, on an annual basis, an aggregate amount of not more than $2,000,000, as determined by the Secretary. Such amount—

(A) shall provide for the establishment and operation on the environmental oversight and monitoring program in Prince William Sound;

(B) shall be adjusted annually by the Anchorage Consumer Price Index; and

(C) may be adjusted periodically upon the mutual consent of the owners or operators of terminal facilities or crude oil tankers operating in Prince William Sound and the Prince William Sound terminal facilities Council.

(3) COOK INLET PROGRAM.—The owners or operators of terminal facilities, offshore facilities, or crude oil tankers operating in Cook Inlet shall provide, on an annual basis, an aggregate amount of not more than $1,000,000, as determined by the Secretary. Such amount—

(A) shall provide for the establishment and operation of the environmental oversight and monitoring program in Cook Inlet;

(B) shall be adjusted annually by the Anchorage Consumer Price Index; and

(C) may be adjusted periodically upon the mutual consent of the owners or operators of terminal facilities, offshore facilities, or crude oil tankers operating in Cook Inlet and the Cook Inlet Council.

(l) REPORTS.—

(1) ASSOCIATIONS AND COUNCILS.—Prior to the expiration of the 36-month period following the date of the enactment of this section, each Association and Council established by this section shall report to the President and the Congress concerning its activities under this section, together with its recommendations.

(2) GAO.—Prior to the expiration of the 36-month period following the date of the enactment of this section, the General Accounting Office shall report to the President and the Congress as to the handling of funds, including donated funds, by the entities carrying out the programs under this section, and the effectiveness of the demonstration programs carried out under this section, together with its recommendations.

(m) DEFINITIONS.—As used in this section, the term—

(1) "terminal facilities" means—

(A) in the case of the Prince William Sound Program, the entire oil terminal complex located in Valdez, Alaska, consisting of approximately 1,000 acres including all buildings, docks (except docks owned by the City of Valdez if those docks are not used for loading of crude oil), pipes, piping, roads, ponds, tanks, crude oil tankers only while at the terminal dock, tanker escorts owned or operated by the operator of the terminal, vehicles, and other facilities associated with, and necessary for, assisting tanker movement of crude oil into and out of the oil terminal complex; and

(B) in the case of the Cook Inlet Program, the entire oil terminal complex including all buildings, docks, pipes, piping, roads, ponds, tanks, vessels, vehicles, crude oil tankers only while at the terminal dock, tanker escorts owned or operated by the operator of the terminal, emergency spill response vessels owned or operated by the operator of the terminal, and other facilities associated with, and necessary for, assisting tanker movement of crude oil into and out of the oil terminal complex;

(2) "crude oil tanker" means a tanker (as that term is defined under section 2101 of title 46, United States Code)—

(A) in the case of the Prince William Sound Program, calling at the terminal facilities for the purpose of receiving and transporting oil to refineries, operating north of Middleston Island and bound for or exiting from Prince William Sound; and

(B) in the case of the Cook Inlet Program, calling at the terminal facilities for the purpose of receiving and transporting oil to refineries and operating in Cook Inlet and the Gulf of Alaska north of Amatuli Island, including tankers transiting to Cook Inlet from Prince William Sound;

(3) "vicinity of the terminal facilities" means that geographical area surrounding the environment of terminal facilities which is directly affected or may be directly affected by the operation of the terminal facilities; and

(4) "Secretary" means the Secretary of Transportation.

(n) SAVINGS CLAUSE.—

(1) REGULATORY AUTHORITY.—Nothing in this section shall be construed as modifying, repealing, superseding, or preempting any municipal, State or Federal law or regulation, or in any way affecting litigation arising from oil spills or the rights and responsibilities of the United States or the State of Alaska, or municipalities thereof, to preserve and protect the environment through regulation of land, air, and water uses, of safety, and of related development. The monitoring provided for by this section shall be designed to help assure compliance with applicable laws and regulations and shall only extend to activities—

(A) that would affect or have the potential to affect the vicinity of the terminal facilities and the area of crude oil tanker operations included in the Programs; and

(B) are subject to the United States or State of Alaska, or municipality thereof, law, regulation, or other legal requirement.

(2) RECOMMENDATIONS.—This subsection is not intended to prevent the Association or Council from recommending to appropriate authorities that existing legal requirements should be modified or that new legal requirements should be adopted.

Contracts.

(o) ALTERNATIVE VOLUNTARY ADVISORY GROUP IN LIEU OF COUNCIL.—The requirements of subsections (c) through (l), as such subsections apply respectively to the Prince William Sound Program and the Cook Inlet Program, are deemed to have been satisfied so long as the following conditions are met:

(1) PRINCE WILLIAM SOUND.—With respect to the Prince William Sound Program, the Alyeska Pipeline Service Company or any of its owner companies enters into a contract for the duration of the operation of the Trans-Alaska Pipeline System with the Alyeska Citizens Advisory Committee in existence on the date of enactment of this section, or a successor organization, to fund that Committee or organization on an annual basis in the amount provided for by subsection (k)(2)(A) and the President annually certifies that the Committee or organization fosters the general goals and purposes of this section and is broadly representative of the communities and interests in the vicinity of the terminal facilities and Prince William Sound.

(2) COOK INLET.—With respect to the Cook Inlet Program, the terminal facilities, offshore facilities, or crude oil tanker owners and operators enter into a contract with a voluntary advisory

organization to fund that organization on an annual basis and the President annually certifies that the organization fosters the general goals and purposes of this section and is broadly representative of the communities and interests in the vicinity of the terminal facilities and Cook Inlet.

SEC. 5003. BLIGH REEF LIGHT. 33 USC 2733.

The Secretary of Transportation shall within one year after the date of the enactment of this title install and ensure operation of an automated navigation light on or adjacent to Bligh Reef in Prince William Sound, Alaska, of sufficient power and height to provide long-range warning of the location of Bligh Reef.

SEC. 5004. VESSEL TRAFFIC SERVICE SYSTEM. 33 USC 2734.

The Secretary of Transportation shall within one year after the date of the enactment of this title—

(1) acquire, install, and operate such additional equipment (which may consist of radar, closed circuit television, satellite tracking systems, or other shipboard dependent surveillance), train and locate such personnel, and issue such final regulations as are necessary to increase the range of the existing VTS system in the Port of Valdez, Alaska, sufficiently to track the locations and movements of tank vessels carrying oil from the Trans-Alaska Pipeline when such vessels are transiting Prince William Sound, Alaska, and to sound an audible alarm when such tankers depart from designated navigation routes; and Regulations.

(2) submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Merchant Marine and Fisheries of the House of Representatives a report on the feasibility and desirability of instituting positive control of tank vessel movements in Prince William Sound by Coast Guard personnel using the Port of Valdez, Alaska, VTS system, as modified pursuant to paragraph (1). Reports.

SEC. 5005. EQUIPMENT AND PERSONNEL REQUIREMENTS UNDER TANK VESSEL AND FACILITY RESPONSE PLANS. 33 USC 2735.

(a) IN GENERAL.—In addition to the requirements for response plans for vessels established by section 311(j) of the Federal Water Pollution Control Act, as amended by this Act, a response plan for a tank vessel operating on Prince William Sound, or a facility permitted under the Trans-Alaska Pipeline Authorization Act (43 U.S.C. 1651 et seq.), shall provide for—

(1) prepositioned oil spill containment and removal equipment in communities and other strategic locations within the geographic boundaries of Prince William Sound, including escort vessels with skimming capability; barges to receive recovered oil; heavy duty sea boom, pumping, transferring, and lightering equipment; and other appropriate removal equipment for the protection of the environment, including fish hatcheries;

(2) the establishment of an oil spill removal organization at appropriate locations in Prince William Sound, consisting of trained personnel in sufficient numbers to immediately remove, to the maximum extent practicable, a worst case discharge or a discharge of 200,000 barrels of oil, whichever is greater;

(3) training in oil removal techniques for local residents and individuals engaged in the cultivation or production of fish or fish products in Prince William Sound;

(4) practice exercises not less than 2 times per year which test the capacity of the equipment and personnel required under this paragraph; and

(5) periodic testing and certification of equipment required under this paragraph, as required by the Secretary.

(b) DEFINITIONS.—In this section—

(1) the term "Prince William Sound" means all State and Federal waters within Prince William Sound, Alaska, including the approach to Hinchenbrook Entrance out to and encompassing Seal Rocks; and

(2) the term "worst case discharge" means—

(A) in the case of a vessel, a discharge in adverse weather conditions of its entire cargo; and

(B) in the case of a facility, the largest foreseeable discharge in adverse weather conditions.

33 USC 2736. SEC. 5006. FUNDING.

(a) SECTION 5001.—Amounts in the Fund shall be available, subject to appropriations, and shall remain available until expended, to carry out section 5001 as follows:

(1) $5,000,000 shall be available for the first fiscal year beginning after the date of enactment of this Act.

(2) $2,000,000 shall be available for each of the 9 fiscal years following the fiscal year described in paragraph (1).

(b) SECTIONS 5003 AND 5004.—Amounts in the Fund shall be available, without further appropriations and without fiscal year limitation, to carry out sections 5003 and 5004, in an amount not to exceed $5,000,000.

33 USC 2737. SEC. 5007. LIMITATION.

Notwithstanding any other law, tank vessels that have spilled more than 1,000,000 gallons of oil into the marine environment after March 22, 1989, are prohibited from operating on the navigable waters of Prince William Sound, Alaska.

TITLE VI—MISCELLANEOUS

33 USC 2751. SEC. 6001. SAVINGS PROVISIONS.

(a) CROSS-REFERENCES.—A reference to a law replaced by this Act, including a reference in a regulation, order, or other law, is deemed to refer to the corresponding provision of this Act.

(b) CONTINUATION OF REGULATIONS.—An order, rule, or regulation in effect under a law replaced by this Act continues in effect under the corresponding provision of this Act until repealed, amended, or superseded.

(c) RULE OF CONSTRUCTION.—An inference of legislative construction shall not be drawn by reason of the caption or catch line of a provision enacted by this Act.

(d) ACTIONS AND RIGHTS.—Nothing in this Act shall apply to any rights and duties that matured, penalties that were incurred, and proceedings that were begun before the date of enactment of this Act, except as provided by this section, and shall be adjudicated pursuant to the law applicable on the date prior to the date of the enactment of this Act.

(e) ADMIRALTY AND MARITIME LAW.—Except as otherwise provided in this Act, this Act does not affect—

(1) admiralty and maritime law; or

(2) the jurisdiction of the district courts of the United States with respect to civil actions under admiralty and maritime jurisdiction, saving to suitors in all cases all other remedies to which they are otherwise entitled.

SEC. 6002. ANNUAL APPROPRIATIONS. 33 USC 2752.

(a) REQUIRED.—Except as provided in subsection (b), amounts in the Fund shall be available only as provided in annual appropriation Acts.

(b) EXCEPTIONS.—Subsection (a) shall not apply to sections 1006(f), 1012(a)(4), or 5006(b), and shall not apply to an amount not to exceed $50,000,000 in any fiscal year which the President may make available from the Fund to carry out section 311(c) of the Federal Water Pollution Control Act, as amended by this Act, and to initiate the assessment of natural resources damages required under section 1006. Sums to which this subsection applies shall remain available until expended.

SEC. 6003. OUTER BANKS PROTECTION. Outer Banks Protection Act. North Carolina. 33 USC 2753.

(a) SHORT TITLE.—This section may be cited as the "Outer Banks Protection Act".

(b) FINDINGS.—The Congress finds that—

(1) the Outer Banks of North Carolina is an area of exceptional environmental fragility and beauty;

(2) the annual economic benefits of commercial and recreational fishing activities to North Carolina, which could be adversely affected by oil or gas development offshore the State's coast, exceeds $1,000,000,000;

(3) the major industry in coastal North Carolina is tourism, which is subject to potentially significant disruption by offshore oil or gas development;

(4) the physical oceanographic characteristics of the area offshore North Carolina between Cape Hatteras and the mouth of the Chesapeake Bay are not well understood, being affected by Gulf Stream western boundary perturbations and accompanying warm filaments, warm and cold core rings which separate from the Gulf Stream, wind stress, outflow from the Chesapeake Bay, Gulf Stream meanders, and intrusions of Virginia coastal waters around and over the Diamond shoals;

(5) diverse and abundant fisheries resources occur in the western boundary area of the Gulf Stream offshore North Carolina, but little is understood of the complex ecological relationships between the life histories of those species and their physical, chemical, and biological environment;

(6) the environmental impact statements prepared for Outer Continental Shelf lease sales numbered 56 (1981) and 78 (1983) contain insufficient and outdated environmental information from which to make decisions on approval of additional oil and gas leasing, exploration, and development activities;

(7) the draft environmental report, dated November 1, 1989, and the preliminary final environmental report dated June 1, 1990, prepared pursuant to a July 14, 1989 memorandum of understanding between the State of North Carolina, the Department of the Interior, and the Mobil Oil Company, have not allayed concerns about the adequacy of the environmental information available to determine whether to proceed with

additional offshore leasing, exploration, or development offshore North Carolina; and

(8) the National Research Council report entitled "The Adequacy of Environmental Information for Outer Continental Shelf Oil and Gas Decisions: Florida and California", issued in 1989, concluded that—

(A) information with respect to those States, which have received greater scrutiny than has North Carolina, is inadequate; and

(B) there are serious generic defects in the Minerals Management Service's methods of environmental analysis, reinforcing concerns about the adequacy of the scientific and technical information which are the basis for a decision to lease additional tracts or approve an exploration plan offshore North Carolina, especially with respect to oceanographic, ecological, and socioeconomic information.

(c) PROHIBITION OF OIL AND GAS LEASING, EXPLORATION, AND DEVELOPMENT.—

(1) PROHIBITION.—The Secretary of the Interior shall not—

(A) conduct a lease sale;

(B) issue any new leases;

(C) approve any exploration plan;

(D) approve any development and production plan;

(E) approve any application for permit to drill; or

(F) permit any drilling,

for oil or gas under the Outer Continental Shelf Lands Act on any lands of the Outer Continental Shelf offshore North Carolina.

(2) BOUNDARIES.—For purposes of paragraph (1), the term "offshore North Carolina" means the area within the lateral seaward boundaries between areas offshore North Carolina and areas offshore—

(A) Virginia as provided in the joint resolution entitled "Joint resolution granting the consent of Congress to an agreement between the States of North Carolina and Virginia establishing their lateral seaward boundary" approved October 27, 1972 (86 Stat. 1298); and

(B) South Carolina as provided in the Act entitled "An Act granting the consent of Congress to the agreement between the States of North Carolina and South Carolina establishing their lateral seaward boundary" approved October 9, 1981 (95 Stat. 988).

(3) DURATION OF PROHIBITION.—

(A) IN GENERAL.—The prohibition under paragraph (1) shall remain in effect until the later of—

(i) October 1, 1991; or

Reports.

(ii) 45 days of continuous session of the Congress after submission of a written report to the Congress by the Secretary of the Interior, made after consideration of the findings and recommendations of the Environmental Sciences Review Panel under subsection (e)—

(I) certifying that the information available, including information acquired pursuant to subsection (d), is sufficient to enable the Secretary to carry out his responsibilities under the Outer Continental Shelf Lands Act with respect to authorizing the activities described in paragraph (1); and

(II) including a detailed explanation of any differences between such certification and the findings and recommendations of the Environmental Sciences Review Panel under subsection (e), and a detailed justification of each such difference.

(B) CONTINUOUS SESSION OF CONGRESS.—In computing any 45-day period of continuous session of Congress under subparagraph (A)(ii)—

(i) continuity of session is broken only by an adjournment of the Congress sine die; and

(ii) the days on which either House of Congress is not in session because of an adjournment of more than 3 days to a day certain are excluded.

(d) ADDITIONAL ENVIRONMENTAL INFORMATION.—The Secretary of the Interior shall undertake ecological and socioeconomic studies, additional physical oceanographic studies, including actual field work and the correlation of existing data, and other additional environmental studies, to obtain sufficient information about all significant conditions, processes, and environments which influence, or may be influenced by, oil and gas leasing, exploration, and development activities offshore North Carolina to enable the Secretary to carry out his responsibilities under the Outer Continental Shelf Lands Act with respect to authorizing the activities described in subsection (c)(1). During the time that the Environmental Sciences Review Panel established under subsection (e) is in existence, the Secretary of the Interior shall consult with such Panel in carrying out this subsection.

(e) ENVIRONMENTAL SCIENCES REVIEW PANEL.— Establishment.

(1) ESTABLISHMENT AND MEMBERSHIP.—There shall be established an Environmental Sciences Review Panel, to consist of—

(A) 1 marine scientist selected by the Secretary of the Interior;

(B) 1 marine scientist selected by the Governor of North Carolina; and

(C) 1 person each from the disciplines of physical oceanography, ecology, and social science, to be selected jointly by the Secretary of the Interior and the Governor of North Carolina from a list of individuals nominated by the National Academy of Sciences.

(2) FUNCTIONS.—Not later than 6 months after the date of the enactment of this Act, the Environmental Sciences Review Panel shall—

(A) prepare and submit to the Secretary of the Interior findings and recommendations—

(i) assessing the adequacy of available physical oceanographic, ecological, and socioeconomic information in enabling the Secretary to carry out his responsibilities under the Outer Continental Shelf Lands Act with respect to authorizing the activities described in subsection (c)(1); and

(ii) if such available information is not adequate for such purposes, indicating what additional information is required to enable the Secretary to carry out such responsibilities; and

(B) consult with the Secretary of the Interior as provided in subsection (d).

(3) EXPENSES.—Each member of the Environmental Sciences Review Panel shall be reimbursed for actual travel expenses and shall receive per diem in lieu of subsistence for each day such member is engaged in the business of the Environmental Sciences Review Panel.

(4) TERMINATION.—The Environmental Sciences Review Panel shall be terminated after the submission of all findings and recommendations required under paragraph (2)(A).

(f) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary of the Interior to carry out this section not to exceed $500,000 for fiscal year 1991, to remain available until expended.

SEC. 6004. COOPERATIVE DEVELOPMENT OF COMMON HYDROCARBON-BEARING AREAS.

(a) AMENDMENT TO OUTER CONTINENTAL SHELF LANDS ACT.—Section 5 of the Outer Continental Shelf Lands Act, as amended (43 U.S.C. 1334), is amended by adding a new subsection (j) as follows:

"(j) COOPERATIVE DEVELOPMENT OF COMMON HYDROCARBON-BEARING AREAS.—

"(1) FINDINGS.—

"(A) The Congress of the United States finds that the unrestrained competitive production of hydrocarbons from a common hydrocarbon-bearing geological area underlying the Federal and State boundary may result in a number of harmful national effects, including—

"(i) the drilling of unnecessary wells, the installation of unnecessary facilities and other imprudent operating practices that result in economic waste, environmental damage, and damage to life and property;

"(ii) the physical waste of hydrocarbons and an unnecessary reduction in the amounts of hydrocarbons that can be produced from certain hydrocarbon-bearing areas; and

"(iii) the loss of correlative rights which can result in the reduced value of national hydrocarbon resources and disorders in the leasing of Federal and State resources.

"(2) PREVENTION OF HARMFUL EFFECTS.—The Secretary shall prevent, through the cooperative development of an area, the harmful effects of unrestrained competitive production of hydrocarbons from a common hydrocarbon-bearing area underlying the Federal and State boundary.".

Louisiana.
43 USC 1334 note.

(b) EXCEPTION FOR WEST DELTA FIELD.—Section 5(j) of the Outer Continental Shelf Lands Act, as added by this section, shall not be applicable with respect to Blocks 17 and 18 of the West Delta Field offshore Louisiana.

(c) AUTHORIZATION OF APPROPRIATIONS.—There are hereby authorized to be appropriated such sums as may be necessary to provide compensation, including interest, to the State of Louisiana and its lessees, for net drainage of oil and gas resources as determined in the Third Party Factfinder Louisiana Boundary Study dated March 21, 1989. For purposes of this section, such lessees shall include those persons with an ownership interest in State of Louisiana leases SL10087, SL10088 or SL10187, or ownership interests in the production or proceeds therefrom, as established by assignment,

contract or otherwise. Interest shall be computed for the period March 21, 1989 until the date of payment.

TITLE VII—OIL POLLUTION RESEARCH AND DEVELOPMENT PROGRAM

SEC. 7001. OIL POLLUTION RESEARCH AND DEVELOPMENT PROGRAM. 33 USC 2761.

(a) INTERAGENCY COORDINATING COMMITTEE ON OIL POLLUTION RESEARCH.—

(1) ESTABLISHMENT.—There is established an Interagency Coordinating Committee on Oil Pollution Research (hereinafter in this section referred to as the "Interagency Committee").

(2) PURPOSES.—The Interagency Committee shall coordinate a comprehensive program of oil pollution research, technology development, and demonstration among the Federal agencies, in cooperation and coordination with industry, universities, research institutions, State governments, and other nations, as appropriate, and shall foster cost-effective research mechanisms, including the joint funding of research.

(3) MEMBERSHIP.—The Interagency Committee shall include representatives from the Department of Commerce (including the National Oceanic and Atmospheric Administration and the National Institute of Standards and Technology), the Department of Energy, the Department of the Interior (including the Minerals Management Service and the United States Fish and Wildlife Service), the Department of Transportation (including the United States Coast Guard, the Maritime Administration, and the Research and Special Projects Administration), the Department of Defense (including the Army Corps of Engineers and the Navy), the Environmental Protection Agency, the National Aeronautics and Space Administration, and the United States Fire Administration in the Federal Emergency Management Agency, as well as such other Federal agencies as the President may designate.

A representative of the Department of Transportation shall serve as Chairman.

(b) OIL POLLUTION RESEARCH AND TECHNOLOGY PLAN.—

(1) IMPLEMENTATION PLAN.—Within 180 days after the date of enactment of this Act, the Interagency Committee shall submit to Congress a plan for the implementation of the oil pollution research, development, and demonstration program established pursuant to subsection (c). The research plan shall—

(A) identify agency roles and responsibilities;

(B) assess the current status of knowledge on oil pollution prevention, response, and mitigation technologies and effects of oil pollution on the environment;

(C) identify significant oil pollution research gaps including an assessment of major technological deficiencies in responses to past oil discharges;

(D) establish research priorities and goals for oil pollution technology development related to prevention, response, mitigation, and environmental effects;

(E) estimate the resources needed to conduct the oil pollution research and development program established

pursuant to subsection (c), and timetables for completing research tasks; and

(F) identify, in consultation with the States, regional oil pollution research needs and priorities for a coordinated, multidisciplinary program of research at the regional level.

Contracts.

(2) ADVICE AND GUIDANCE.—The Chairman, through the Department of Transportation, shall contract with the National Academy of Sciences to—

(A) provide advice and guidance in the preparation and development of the research plan; and

Reports.

(B) assess the adequacy of the plan as submitted, and submit a report to Congress on the conclusions of such assessment.

The National Institute of Standards and Technology shall provide the Interagency Committee with advice and guidance on issues relating to quality assurance and standards measurements relating to its activities under this section.

(c) OIL POLLUTION RESEARCH AND DEVELOPMENT PROGRAM.—

(1) ESTABLISHMENT.—The Interagency Committee shall coordinate the establishment, by the agencies represented on the Interagency Committee, of a program for conducting oil pollution research and development, as provided in this subsection.

(2) INNOVATIVE OIL POLLUTION TECHNOLOGY.—The program established under this subsection shall provide for research, development, and demonstration of new or improved technologies which are effective in preventing or mitigating oil discharges and which protect the environment, including—

(A) development of improved designs for vessels and facilities, and improved operational practices;

(B) research, development, and demonstration of improved technologies to measure the ullage of a vessel tank, prevent discharges from tank vents, prevent discharges during lightering and bunkering operations, contain discharges on the deck of a vessel, prevent discharges through the use of vacuums in tanks, and otherwise contain discharges of oil from vessels and facilities;

(C) research, development, and demonstration of new or improved systems of mechanical, chemical, biological, and other methods (including the use of dispersants, solvents, and bioremediation) for the recovery, removal, and disposal of oil, including evaluation of the environmental effects of the use of such systems;

Texas.

(D) research and training, in consultation with the National Response Team, to improve industry's and Government's ability to quickly and effectively remove an oil discharge, including the long-term use, as appropriate, of the National Spill Control School in Corpus Christi, Texas;

(E) research to improve information systems for decision-making, including the use of data from coastal mapping, baseline data, and other data related to the environmental effects of oil discharges, and cleanup technologies;

(F) development of technologies and methods to protect public health and safety from oil discharges, including the population directly exposed to an oil discharge;

(G) development of technologies, methods, and standards for protecting removal personnel, including training, ade-

quate supervision, protective equipment, maximum exposure limits, and decontamination procedures;

(H) research and development of methods to restore and rehabilitate natural resources damaged by oil discharges;

(I) research to evaluate the relative effectiveness and environmental impacts of bioremediation technologies; and

(J) the demonstration of a satellite-based, dependent surveillance vessel traffic system in Narragansett Bay to evaluate the utility of such system in reducing the risk of oil discharges from vessel collisions and groundings in confined waters.

(3) OIL POLLUTION TECHNOLOGY EVALUATION.—The program established under this subsection shall provide for oil pollution prevention and mitigation technology evaluation including—

(A) the evaluation and testing of technologies developed independently of the research and development program established under this subsection;

(B) the establishment, where appropriate, of standards and testing protocols traceable to national standards to measure the performance of oil pollution prevention or mitigation technologies; and

(C) the use, where appropriate, of controlled field testing to evaluate real-world application of oil discharge prevention or mitigation technologies.

(4) OIL POLLUTION EFFECTS RESEARCH.—(A) The Committee shall establish a research program to monitor and evaluate the environmental effects of oil discharges. Such program shall include the following elements:

(i) The development of improved models and capabilities for predicting the environmental fate, transport, and effects of oil discharges.

(ii) The development of methods, including economic methods, to assess damages to natural resources resulting from oil discharges.

(iii) The identification of types of ecologically sensitive areas at particular risk to oil discharges and the preparation of scientific monitoring and evaluation plans, one for each of several types of ecological conditions, to be implemented in the event of major oil discharges in such areas.

(iv) The collection of environmental baseline data in ecologically sensitive areas at particular risk to oil discharges where such data are insufficient.

(B) The Department of Commerce in consultation with the Environmental Protection Agency shall monitor and scientifically evaluate the long-term environmental effects of oil discharges if—

(i) the amount of oil discharged exceeds 250,000 gallons;

(ii) the oil discharge has occurred on or after January 1, 1989; and

(iii) the Interagency Committee determines that a study of the long-term environmental effects of the discharge would be of significant scientific value, especially for preventing or responding to future oil discharges.

Areas for study may include the following sites where oil discharges have occurred: the New York/New Jersey Harbor area, where oil was discharged by an Exxon underwater pipeline, the T/B CIBRO SAVANNAH, and the M/V BT NAUTILUS; State listing.

Narragansett Bay where oil was discharged by the WORLD PRODIGY; the Houston Ship Channel where oil was discharged by the RACHEL B; the Delaware River, where oil was discharged by the PRESIDENTE RIVERA, and Huntington Beach, California, where oil was discharged by the AMERICAN TRADER.

(C) Research conducted under this paragraph by, or through, the United States Fish and Wildlife Service shall be directed and coordinated by the National Wetland Research Center.

(5) MARINE SIMULATION RESEARCH.—The program established under this subsection shall include research on the greater use and application of geographic and vessel response simulation models, including the development of additional data bases and updating of existing data bases using, among others, the resources of the National Maritime Research Center. It shall include research and vessel simulations for—

(A) contingency plan evaluation and amendment;

(B) removal and strike team training;

(C) tank vessel personnel training; and

(D) those geographic areas where there is a significant likelihood of a major oil discharge.

State listing.

(6) DEMONSTRATION PROJECTS.—The United States Coast Guard, in conjunction with other such agencies in the Department of Transportation as the Secretary of Transportation may designate, shall conduct 3 port oil pollution minimization demonstration projects, one each with (A) the Port Authority of New York and New Jersey, (B) the Ports of Los Angeles and Long Beach, California, and (C) the Port of New Orleans, Louisiana, for the purpose of developing and demonstrating integrated port oil pollution prevention and cleanup systems which utilize the information and implement the improved practices and technologies developed from the research, development, and demonstration program established in this section. Such systems shall utilize improved technologies and management practices for reducing the risk of oil discharges, including, as appropriate, improved data access, computerized tracking of oil shipments, improved vessel tracking and navigation systems, advanced technology to monitor pipeline and tank conditions, improved oil spill response capability, improved capability to predict the flow and effects of oil discharges in both the inner and outer harbor areas for the purposes of making infrastructure decisions, and such other activities necessary to achieve the purposes of this section.

New Jersey.

(7) SIMULATED ENVIRONMENTAL TESTING.—Agencies represented on the Interagency Committee shall ensure the long-term use and operation of the Oil and Hazardous Materials Simulated Environmental Test Tank (OHMSETT) Research Center in New Jersey for oil pollution technology testing and evaluations.

Grants.
Schools and colleges.

(8) REGIONAL RESEARCH PROGRAM.—(A) Consistent with the research plan in subsection (b), the Interagency Committee shall coordinate a program of competitive grants to universities or other research institutions, or groups of universities or research institutions, for the purposes of conducting a coordinated research program related to the regional aspects of oil pollution, such as prevention, removal, mitigation, and the effects of discharged oil on regional environments. For the purposes of

this paragraph, a region means a Coast Guard district as set out in part 3 of title 33, Code of Federal Regulations (1989).

(B) The Interagency Committee shall coordinate the publication by the agencies represented on the Interagency Committee of a solicitation for grants under this subsection. The application shall be in such form and contain such information as may be required in the published solicitation. The applications shall be reviewed by the Interagency Committee, which shall make recommendations to the appropriate granting agency represented on the Interagency Committee for awarding the grant. The granting agency shall award the grants recommended by the Interagency Committee unless the agency decides not to award the grant due to budgetary or other compelling considerations and publishes its reasons for such a determination in the Federal Register. No grants may be made by any agency from any funds authorized for this paragraph unless such grant award has first been recommended by the Interagency Committee.

(C) Any university or other research institution, or group of universities or research institutions, may apply for a grant for the regional research program established by this paragraph. The applicant must be located in the region, or in a State a part of which is in the region, for which the project is proposed as part of the regional research program. With respect to a group application, the entity or entities which will carry out the substantial portion of the proposed research must be located in the region, or in a State a part of which is in the region, for which the project is proposed as part of the regional research program.

(D) The Interagency Committee shall make recommendations on grants in such a manner as to ensure an appropriate balance within a region among the various aspects of oil pollution research, including prevention, removal, mitigation, and the effects of discharged oil on regional environments. In addition, the Interagency Committee shall make recommendations for grants based on the following criteria:

(i) There is available to the applicant for carrying out this paragraph demonstrated research resources.

(ii) The applicant demonstrates the capability of making a significant contribution to regional research needs.

(iii) The projects which the applicant proposes to carry out under the grant are consistent with the research plan under subsection (b)(1)(F) and would further the objectives of the research and development program established in this section.

(E) Grants provided under this paragraph shall be for a period up to 3 years, subject to annual review by the granting agency, and provide not more than 80 percent of the costs of the research activities carried out in connection with the grant.

(F) No funds made available to carry out this subsection may be used for the acquisition of real property (including buildings) or construction of any building.

(G) Nothing in this paragraph is intended to alter or abridge the authority under existing law of any Federal agency to make grants, or enter into contracts or cooperative agreements, using funds other than those authorized in this Act for the purposes of carrying out this paragraph.

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(9) FUNDING.—For each of the fiscal years 1991, 1992, 1993, 1994, and 1995, $6,000,000 of amounts in the Fund shall be available to carry out the regional research program in paragraph (8), such amounts to be available in equal amounts for the regional research program in each region; except that if the agencies represented on the Interagency Committee determine that regional research needs exist which cannot be addressed within such funding limits, such agencies may use their authority under paragraph (10) to make additional grants to meet such needs. For the purposes of this paragraph, the research program carried out by the Prince William Sound Oil Spill Recovery Institute established under section 5001, shall not be eligible to receive grants under this paragraph.

(10) GRANTS.—In carrying out the research and development program established under this subsection, the agencies represented on the Interagency Committee may enter into contracts and cooperative agreements and make grants to universities, research institutions, and other persons. Such contracts, cooperative agreements, and grants shall address research and technology priorities set forth in the oil pollution research plan under subsection (b).

(11) In carrying out research under this section, the Department of Transportation shall continue to utilize the resources of the Research and Special Programs Administration of the Department of Transportation, to the maximum extent practicable.

(d) INTERNATIONAL COOPERATION.—In accordance with the research plan submitted under subsection (b), the Interagency Committee shall coordinate and cooperate with other nations and foreign research entities in conducting oil pollution research, development, and demonstration activities, including controlled field tests of oil discharges.

(e) BIENNIAL REPORTS.—The Chairman of the Interagency Committee shall submit to Congress every 2 years on October 30 a report on the activities carried out under this section in the preceding 2 fiscal years, and on activities proposed to be carried out under this section in the current 2 fiscal year period.

(f) FUNDING.—Not to exceed $21,250,000 of amounts in the Fund shall be available annually to carry out this section except for subsection (c)(8). Of such sums—

(1) funds authorized to be appropriated to carry out the activities under subsection (c)(4) shall not exceed $5,000,000 for fiscal year 1991 or $3,500,000 for any subsequent fiscal year; and

(2) not less than $2,250,000 shall be available for carrying out the activities in subsection (c)(6) for fiscal years 1992, 1993, 1994, and 1995.

All activities authorized in this section, including subsection (c)(8), are subject to appropriations.

Trans-Alaska Pipeline System Reform Act of 1990.

TITLE VIII—TRANS-ALASKA PIPELINE SYSTEM

43 USC 1651 note.

SEC. 8001. SHORT TITLE.

This title may be cited as the "Trans-Alaska Pipeline System Reform Act of 1990".

Subtitle A—Improvements to Trans-Alaska Pipeline System

SEC. 8101. LIABILITY WITHIN THE STATE OF ALASKA AND CLEANUP EFFORTS.

(a) CAUSE OF ACCIDENT.—Section 204(a)(1) of the Trans-Alaska Pipeline Authorization Act (43 U.S.C. 1653(a)(1)) is amended by striking out "caused by" in the first sentence and inserting in lieu thereof "caused solely by".

(b) LIMITATION OF LIABILITY.—Section 204(a)(2) of the Trans-Alaska Pipeline Authorization Act (43 U.S.C. 1653(a)(2)) is amended by striking "$50,000,000" each place it occurs and inserting in lieu thereof "$350,000,000".

(c) CLEANUP EFFORTS.—Section 204(b) of the Trans-Alaska Pipeline Authorization Act (43 U.S.C. 1653(b)) is amended in the first sentence—

(1) by inserting after "any area" the following: "in the State of Alaska";

(2) by inserting after "any activities" the following: "related to the Trans-Alaska Pipeline System, including operation of the terminal,"; and

(3) by inserting after "other Federal" the first place it appears the following: "or State".

SEC. 8102. TRANS-ALASKA PIPELINE LIABILITY FUND.

(a) TERMINATION OF CERTAIN PROVISIONS.—

(1) REPEAL.—Section 204(c) of the Trans-Alaska Pipeline Authorization Act (43 U.S.C. 1653(c)) is repealed, effective as provided in paragraph (5).

(2) DISPOSITION OF FUND BALANCE.— 43 USC 1653 note.

(A) RESERVATION OF AMOUNTS.—The trustees of the Trans-Alaska Pipeline Liability Fund (hereafter in this subsection referred to as the "TAPS Fund") shall reserve the following amounts in the TAPS Fund—

(i) necessary to pay claims arising under section 204(c) of the Trans-Alaska Pipeline Authorization Act (43 U.S.C. 1653(c)); and

(ii) administrative expenses reasonably necessary for and incidental to the implementation of section 204(c) of that Act.

(B) DISPOSITION OF THE BALANCE.—After the Comptroller General of the United States certifies that the requirements of subparagraph (A) have been met, the trustees of the TAPS Fund shall dispose of the balance in the TAPS Fund after the reservation of amounts are made under subparagraph (A) by—

(i) rebating the pro rata share of the balance to the State of Alaska for its contributions as an owner of oil; and then

(ii) transferring and depositing the remainder of the balance into the Oil Spill Liability Trust Fund established under section 9509 of the Internal Revenue Code of 1986 (26 U.S.C. 9509).

(C) DISPOSITION OF THE RESERVED AMOUNTS.—After payment of all claims arising from an incident for which funds

are reserved under subparagraph (A) and certification by the Comptroller General of the United States that the claims arising from that incident have been paid, the excess amounts, if any, for that incident shall be disposed of as set forth under subparagraphs (A) and (B).

(D) AUTHORIZATION.—The amounts transferred and deposited in the Fund shall be available for the purposes of section 1012 of the Oil Pollution Act of 1990 after funding sections 5001 and 8103 to the extent that funds have not otherwise been provided for the purposes of such sections.

43 USC 1653 note.

(3) SAVINGS CLAUSE.—The repeal made by paragraph (1) shall have no effect on any right to recover or responsibility that arises from incidents subject to section 204(c) of the Trans-Alaska Pipeline Authorization Act (43 U.S.C. 1653(c)) occurring prior to the date of enactment of this Act.

(4) TAPS COLLECTION.—Paragraph (5) of section 204(c) of the Trans-Alaska Pipeline Authorization Act (43 U.S.C. 1653(c)) is amended by striking the period at the end of the second sentence and adding at the end the following: ", except that after the date of enactment of the Oil Pollution Act of 1990, the amount to be accumulated shall be $100,000,000 or the amount determined by the trustees and certified to the Congress by the Comptroller General as necessary to pay claims arising from incidents occurring prior to the date of enactment of that Act and administrative costs, whichever is less.".

43 USC 1653 note.

(5) EFFECTIVE DATE.—(A) The repeal by paragraph (1) shall be effective 60 days after the date on which the Comptroller General of the United States certifies to the Congress that—

(i) all claims arising under section 204(c) of the Trans-Alaska Pipeline Authorization Act (43 U.S.C. 1653(c)) have been resolved,

(ii) all actions for the recovery of amounts subject to section 204(c) of the Trans-Alaska Pipeline Authorization Act have been resolved, and

(iii) all administrative expenses reasonably necessary for and incidental to the implementation of section 204(c) of the Trans-Alaska Pipeline Authorization Act have been paid.

(B) Upon the effective date of the repeal pursuant to subparagraph (A), the trustees of the TAPS Fund shall be relieved of all responsibilities under section 204(c) of the Trans-Alaska Pipeline Authorization Act, but not any existing legal liability.

43 USC 1653 note.

(6) TUCKER ACT.—This subsection is intended expressly to preserve any and all rights and remedies of contributors to the TAPS Fund under section 1491 of title 28, United States Code (commonly referred to as the "Tucker Act").

(b) CAUSE OF ACCIDENT.—Section 204(c)(2) of the Trans-Alaska Pipeline Authorization Act (43 U.S.C. 1653(c)(2)) is amended by striking out "caused by" in the first sentence and inserting in lieu thereof "caused solely by".

(c) DAMAGES.—Section 204(c) of the Trans-Alaska Pipeline Authorization Act (43 U.S.C. 1653(c)), as amended by this title, is further amended by adding at the end the following new paragraphs:

"(13) For any claims against the Fund, the term 'damages' shall include, but not be limited to—

"(A) the net loss of taxes, revenues, fees, royalties, rents, or other revenues incurred by a State or a political subdivision of a

State due to injury, destruction, or loss of real property, personal property, or natural resources, or diminished economic activity due to a discharge of oil; and

"(B) the net cost of providing increased or additional public services during or after removal activities due to a discharge of oil, including protection from fire, safety, or health hazards, incurred by a State or political subdivision of a State.

"(14) Paragraphs (1) through (13) shall apply only to claims arising from incidents occurring before the date of enactment of the Trans-Alaska Pipeline System Reform Act of 1990. The Oil Pollution Act of 1990 shall apply to any incident, or any claims arising from an incident, occurring on or after the date of the enactment of that Act.".

(d) PAYMENT OF CLAIMS BY FUND.—Section 204(c)(3) of the Trans-Alaska Pipeline Authorization Act (43 U.S.C. 1653(c)(3)) is amended by adding at the end the following: "The Fund shall expeditiously pay claims under this subsection, including such $14,000,000, if the owner or operator of a vessel has not paid any such claim within 90 days after such claim has been submitted to such owner or operator. Upon payment of any such claim, the Fund shall be subrogated under applicable State and Federal laws to all rights of any person entitled to recover under this subsection. In any action brought by the Fund against an owner or operator or an affiliate thereof to recover amounts under this paragraph, the Fund shall be entitled to recover prejudgment interest, costs, reasonable attorney's fees, and, in the discretion of the court, penalties.".

(e) OFFICERS OR TRUSTEES.—Section 204(c)(4) of the Trans-Alaska Pipeline Authorization Act (43 U.S.C. 1653(c)(4)) is amended—

(1) by inserting "(A)" after "(4)"; and

(2) by adding at the end the following:

"(B) No present or former officer or trustee of the Fund shall be subject to any liability incurred by the Fund or by the present or former officers or trustees of the Fund, other than liability for gross negligence or willful misconduct.

"(C)(i) Subject to clause (ii), each officer and each trustee of the Fund—

"(I) shall be indemnified against all claims and liabilities to which he or she has or shall become subject by reason of serving or having served as an officer or trustee, or by reason of any action taken, omitted, or neglected by him or her as an officer or trustee; and

"(II) shall be reimbursed for all attorney's fees reasonably incurred in connection with any claim or liability.

"(ii) No officer or trustee shall be indemnified against, or be reimbursed for, any expenses incurred in connection with, any claim or liability arising out of his or her gross negligence or willful misconduct.".

SEC. 8103. PRESIDENTIAL TASK FORCE.

43 USC 1651 note.

(a) ESTABLISHMENT OF TASK FORCE.—

(1) ESTABLISHMENT AND MEMBERS.—(A) There is hereby established a Presidential Task Force on the Trans-Alaska Pipeline System (hereinafter referred to as the "Task Force") composed of the following members appointed by the President:

(i) Three members, one of whom shall be nominated by the Secretary of the Interior, one by the Administrator of

the Environmental Protection Agency, and one by the Secretary of Transportation.

(ii) Three members nominated by the Governor of the State of Alaska, one of whom shall be an employee of the Alaska Department of Natural Resources and one of whom shall be an employee of the Alaska Department of Environmental Conservation.

(iii) One member nominated by the Office of Technology Assessment.

(B) Any member appointed to fill a vacancy occurring before the expiration of the term for which his or her predecessor was appointed shall be appointed only for the remainder of such term. A member may serve after the expiration of his or her term until a successor, if applicable, has taken office.

(2) COCHAIRMEN.—The President shall appoint a Federal cochairman from among the Federal members of the Task Force appointed pursuant to paragraph (1)(A) and the Governor shall designate a State cochairman from among the State members of the Task Force appointed pursuant to paragraph (1)(B).

(3) COMPENSATION.—Members shall, to the extent approved in appropriations Acts, receive the daily equivalent of the minimum annual rate of basic pay in effect for grade GS–15 of the General Schedule for each day (including travel time) during which they are engaged in the actual performance of duties vested in the Task Force, except that members who are State, Federal, or other governmental employees shall receive no compensation under this paragraph in addition to the salaries they receive as such employees.

(4) STAFF.—The cochairman of the Task Force shall appoint a Director to carry out administrative duties. The Director may hire such staff and incur such expenses on behalf of the Task Force for which funds are available.

(5) RULE.—Employees of the Task Force shall not, by reason of such employment, be considered to be employees of the Federal Government for any purpose.

(b) DUTIES OF THE TASK FORCE.—

(1) AUDIT.—The Task Force shall conduct an audit of the Trans-Alaska Pipeline System (hereinafter referred to as "TAPS") including the terminal at Valdez, Alaska, and other related onshore facilities, make recommendations to the President, the Congress, and the Governor of Alaska.

(2) COMPREHENSIVE REVIEW.—As part of such audit, the Task Force shall conduct a comprehensive review of the TAPS in order to specifically advise the President, the Congress, and the Governor of Alaska concerning whether—

(A) the holder of the Federal and State right-of-way is, and has been, in full compliance with applicable laws, regulations, and agreements;

(B) the laws, regulations, and agreements are sufficient to prevent the release of oil from TAPS and prevent other damage or degradation to the environment and public health;

(C) improvements are necessary to TAPS to prevent release of oil from TAPS and to prevent other damage or degradation to the environment and public health;

(D) improvements are necessary in the onshore oil spill response capabilities for the TAPS; and

(E) improvements are necessary in security for TAPS.

(3) CONSULTANTS.—(A) The Task Force shall retain at least one independent consulting firm with technical expertise in engineering, transportation, safety, the environment, and other applicable areas to assist the Task Force in carrying out this subsection.

(B) Contracts with any such firm shall be entered into on a nationally competitive basis, and the Task Force shall not select any firm with respect to which there may be a conflict of interest in assisting the Task Force in carrying out the audit and review. All work performed by such firm shall be under the direct and immediate supervision of a registered engineer. Contracts.

(4) PUBLIC COMMENT.—The Task Force shall provide an opportunity for public comment on its activities including at a minimum the following:

(A) Before it begins its audit and review, the Task Force shall review reports prepared by other Government entities conducting reviews of TAPS and shall consult with those Government entities that are conducting ongoing investigations including the General Accounting Office. It shall also hold at least 2 public hearings, at least 1 of which shall be held in a community affected by the Exxon Valdez oil spill. Members of the public shall be given an opportunity to present both oral and written testimony.

(B) The Task Force shall provide a mechanism for the confidential receipt of information concerning TAPS, which may include a designated telephone hotline. Classified information.

(5) TASK FORCE REPORT.—The Task Force shall publish a draft report which it shall make available to the public. The public will have at least 30 days to provide comments on the draft report. Based on its draft report and the public comments thereon, the Task Force shall prepare a final report which shall include its findings, conclusions, and recommendations made as a result of carrying out such audit. The Task Force shall transmit (and make available to the public), no later than 2 years after the date on which funding is made available under paragraph (7), its final report to the President, the Congress, and the Governor of Alaska.

(6) PRESIDENTIAL REPORT.—The President shall, within 90 days after receiving the Task Force's report, transmit a report to the Congress and the Governor of Alaska outlining what measures have been taken or will be taken to implement the Task Force's recommendations. The President's report shall include recommended changes, if any, in Federal and State law to enhance the safety and operation of TAPS.

(7) EARMARK.—Of amounts in the Fund, $5,000,000 shall be available, subject to appropriations, annually without fiscal year limitation to carry out the requirements of this section.

(c) GENERAL ADMINISTRATION AND POWERS OF THE TASK FORCE.—

(1) AUDIT ACCESS.—The Comptroller General of the United States, and any of his or her duly appointed representatives, shall have access, for purposes of audit and examination, to any books, documents, papers, and records of the Task Force that are pertinent to the funds received and expended by the Task Force.

(2) TERMINATION.—The Task Force shall cease to exist on the date on which the final report is provided pursuant to subsection (b)(5).

Safety.

(3) FUNCTIONS LIMITATION.—With respect to safety, operations, and other matters related to the pipeline facilities (as such term is defined in section 202(4) of the Hazardous Liquid Pipeline Safety Act of 1979) of the TAPS, the Task Force shall not perform any functions which are the responsibility of the Secretary of Transportation under the Hazardous Liquid Pipeline Safety Act of 1979, as amended. The Secretary may use the information gathered by and reports issued by the Task Force in carrying out the Secretary's responsibilities under that Act.

(4) POWERS.—The Task Force may, to the extent necessary to carry out its responsibilities, conduct investigations, make reports, issue subpoenas, require the production of relevant documents and records, take depositions, and conduct directly or, by contract, or otherwise, research, testing, and demonstration activities.

(5) EXAMINATION OF RECORDS AND PROPERTIES.—The Task Force, and the employees and agents it so designates, are authorized, upon presenting appropriate credentials to the person in charge, to enter upon, inspect, and examine, at reasonable times and in a reasonable manner, the records and properties of persons to the extent such records and properties are relevant to determining whether such persons have acted or are acting in compliance with applicable laws and agreements.

(6) FOIA.—The information gathered by the Task Force pursuant to subsection (b) shall not be subject to section 552 of title 5, United States Code (commonly referred to as the "Freedom of Information Act"), until its final report is issued pursuant to subsection (b)(6).

Subtitle B—Penalties

SEC. 8201. AUTHORITY OF THE SECRETARY OF THE INTERIOR TO IMPOSE PENALTIES ON OUTER CONTINENTAL SHELF FACILITIES.

Section 24(b) of the Outer Continental Shelf Lands Act (43 U.S.C. 1350(b)) is amended—

(1) by striking out "If any" and inserting in lieu thereof "(1) Except as provided in paragraph (2), if any";

(2) by striking out "$10,000" and inserting in lieu thereof "$20,000";

Regulations.

(3) by adding at the end of paragraph (1) the following new sentence: "The Secretary shall, by regulation at least every 3 years, adjust the penalty specified in this paragraph to reflect any increases in the Consumer Price Index (all items, United States city average) as prepared by the Department of Labor."; and

(4) by adding at the end the following new paragraph:

"(2) If a failure described in paragraph (1) constitutes or constituted a threat of serious, irreparable, or immediate harm or damage to life (including fish and other aquatic life), property, any mineral deposit, or the marine, coastal, or human environment, a civil penalty may be assessed without regard to the requirement of expiration of a period allowed for corrective action.".

SEC. 8202. TRANS-ALASKA PIPELINE SYSTEM CIVIL PENALTIES.

The Trans-Alaska Pipeline Authorization Act (43 U.S.C. 1651 et seq.) is amended by adding at the end thereof the following new section:

"CIVIL PENALTIES

"SEC. 207. (a) PENALTY.—Except as provided in subsection (c)(4), the Secretary of the Interior may assess and collect a civil penalty under this section with respect to any discharge of oil— 43 USC 1656.

"(1) in transit from fields or reservoirs supplying oil to the trans-Alaska pipeline; or

"(2) during transportation through the trans-Alaska pipeline or handling at the terminal facilities, that causes damage to, or threatens to damage, natural resources or public or private property.

"(b) PERSONS LIABLE.—In addition to the person causing or permitting the discharge, the owner or owners of the oil at the time the discharge occurs shall be jointly, severally, and strictly liable for the full amount of penalties assessed pursuant to this section, except that the United States and the several States, and political subdivisions thereof, shall not be liable under this section.

"(c) AMOUNT.—(1) The amount of the civil penalty shall not exceed $1,000 per barrel of oil discharged.

"(2) In determining the amount of civil penalty under this section, the Secretary shall consider the seriousness of the damages from the discharge, the cause of the discharge, any history of prior violations of applicable rules and laws, and the degree of success of any efforts by the violator to minimize or mitigate the effects of such discharge.

"(3) The Secretary may reduce or waive the penalty imposed under this section if the discharge was solely caused by an act of war, act of God, or third party action beyond the control of the persons liable under this section.

"(4) No civil penalty assessed by the Secretary pursuant to this section shall be in addition to a penalty assessed pursuant to section 311(b) of the Federal Water Pollution Control Act (33 U.S.C. 1321(b)).

"(d) PROCEDURES.—A civil penalty may be assessed and collected under this section only after notice and opportunity for a hearing on the record in accordance with section 554 of title 5, United States Code. In any proceeding for the assessment of a civil penalty under this section, the Secretary may issue subpoenas for the attendance and testimony of witnesses and the production of relevant papers, books, and documents and may promulgate rules for discovery procedures. Any person who requested a hearing with respect to a civil penalty under this subsection and who is aggrieved by an order assessing the civil penalty may file a petition for judicial review of such order with the United States Court of Appeals for the District of Columbia circuit or for any other circuit in which such person resides or transacts business. Such a petition may only be filed within the 30-day period beginning on the date the order making such assessment was issued.

"(e) STATE LAW.—(1) Nothing in this section shall be construed or interpreted as preempting any State or political subdivision thereof from imposing any additional liability or requirements with respect to the discharge, or threat of discharge, of oil or other pollution by oil.

"(2) Nothing in this section shall affect or modify in any way the obligations or liabilities of any person under other Federal or State law, including common law, with respect to discharges of oil.".

Subtitle C—Provisions Applicable to Alaska Natives

SEC. 8301. LAND CONVEYANCES.

The Alaska National Interest Lands Conservation Act (Public Law 96-487) is amended by adding the following after section 1437:

Claims.
43 USC 1642.

"SEC. 1438. Solely for the purpose of bringing claims that arise from the discharge of oil, the Congress confirms that all right, title, and interest of the United States in and to the lands validly selected pursuant to the Alaska Native Claims Settlement Act (43 U.S.C. 1601 et seq.) by Alaska Native corporations are deemed to have vested in the respective corporations as of March 23, 1989. This section shall take effect with respect to each Alaska Native corporation only upon its irrevocable election to accept an interim conveyance of such land and notice of such election has been formally transmitted to the Secretary of the Interior.".

SEC. 8302. IMPACT OF POTENTIAL SPILLS IN THE ARCTIC OCEAN ON ALASKA NATIVES.

Section 1005 of the Alaska National Interest Lands Conservation Act (16 U.S.C. 3145) is amended—

(1) by amending the heading to read as follows:

"WILDLIFE RESOURCES PORTION OF STUDY AND IMPACT OF POTENTIAL OIL SPILLS IN THE ARCTIC OCEAN";

(2) by inserting "(a)" after "SEC. 1005."; and

(3) by adding at the end the following:

"(b)(1) The Congress finds that—

Canada.

"(A) Canada has discovered commercial quantities of oil and gas in the Amalagak region of the Northwest Territory;

"(B) Canada is exploring alternatives for transporting the oil from the Amalagak field to markets in Asia and the Far East;

"(C) one of the options the Canadian Government is exploring involves transshipment of oil from the Amalagak field across the Beaufort Sea to tankers which would transport the oil overseas;

"(D) the tankers would traverse the American Exclusive Economic Zone through the Beaufort Sea into the Chuckchi Sea and then through the Bering Straits;

"(E) the Beaufort and Chuckchi Seas are vital to Alaska's Native people, providing them with subsistence in the form of walrus, seals, fish, and whales;

"(F) the Secretary of the Interior has conducted Outer Continental Shelf lease sales in the Beaufort and Chuckchi Seas and oil and gas exploration is ongoing;

"(G) an oil spill in the Arctic Ocean, if not properly contained and cleaned up, could have significant impacts on the indigenous people of Alaska's North Slope and on the Arctic environment; and

"(H) there are no international contingency plans involving our two governments concerning containment and cleanup of an oil spill in the Arctic Ocean.

"(2)(A) The Secretary of the Interior, in consultation with the Governor of Alaska, shall conduct a study of the issues of recovery of damages, contingency plans, and coordinated actions in the event of an oil spill in the Arctic Ocean.

"(B) The Secretary shall, no later than January 31, 1991, transmit a report to the Congress on the findings and conclusions reached as the result of the study carried out under this subsection. Reports.

"(c) The Congress calls upon the Secretary of State, in consultation with the Secretary of the Interior, the Secretary of Transportation, and the Governor of Alaska, to begin negotiations with the Foreign Minister of Canada regarding a treaty dealing with the complex issues of recovery of damages, contingency plans, and coordinated actions in the event of an oil spill in the Arctic Ocean. Canada. International agreements.

"(d) The Secretary of State shall report to the Congress on the Secretary's efforts pursuant to this section no later than June 1, 1991.". Reports.

TITLE IX—AMENDMENTS TO OIL SPILL LIABILITY TRUST FUND, ETC.

SEC. 9001. AMENDMENTS TO OIL SPILL LIABILITY TRUST FUND.

(a) TRANSFERS TO TRUST FUND.—Subsection (b) of section 9509 of the Internal Revenue Code of 1986 is amended by striking all that follows paragraph (1) and inserting the following: 26 USC 9509.

"(2) amounts recovered under the Oil Pollution Act of 1990 for damages to natural resources which are required to be deposited in the Fund under section 1006(f) of such Act,

"(3) amounts recovered by such Trust Fund under section 1015 of such Act,

"(4) amounts required to be transferred by such Act from the revolving fund established under section 311(k) of the Federal Water Pollution Control Act,

"(5) amounts required to be transferred by the Oil Pollution Act of 1990 from the Deepwater Port Liability Fund established under section 18(f) of the Deepwater Port Act of 1974,

"(6) amounts required to be transferred by the Oil Pollution Act of 1990 from the Offshore Oil Pollution Compensation Fund established under section 302 of the Outer Continental Shelf Lands Act Amendments of 1978,

"(7) amounts required to be transferred by the Oil Pollution Act of 1990 from the Trans-Alaska Pipeline Liability Fund established under section 204 of the Trans-Alaska Pipeline Authorization Act, and

"(8) any penalty paid pursuant to section 311 of the Federal Water Pollution Control Act, section 309(c) of such Act (as a result of violations of such section 311), the Deepwater Port Act of 1974, or section 207 of the Trans-Alaska Pipeline Authorization Act."

(b) EXPENDITURES FROM TRUST FUND.—Paragraph (1) of section 9509(c) of such Code is amended to read as follows:

"(1) EXPENDITURE PURPOSES.—Amounts in the Oil Spill Liability Trust Fund shall be available, as provided in appropriation

Acts or section 6002(b) of the Oil Pollution Act of 1990, only for purposes of making expenditures—

"(A) for the payment of removal costs and other costs, expenses, claims, and damages referred to in section 1012 of such Act,

"(B) to carry out sections 5 and 7 of the Intervention on the High Seas Act relating to oil pollution or the substantial threat of oil pollution,

"(C) for the payment of liabilities incurred by the revolving fund established by section 311(k) of the Federal Water Pollution Control Act,

"(D) to carry out subsections (b), (c), (d), (j), and (l) of section 311 of the Federal Water Pollution Control Act with respect to prevention, removal, and enforcement related to oil discharges (as defined in such section),

"(E) for the payment of liabilities incurred by the Deepwater Port Liability Fund, and

"(F) for the payment of liabilities incurred by the Offshore Oil Pollution Compensation Fund."

26 USC 9509. (c) INCREASE IN EXPENDITURES PERMITTED PER INCIDENT.—Subparagraph (A) of section 9509(c)(2) of such Code is amended—

(1) by striking "$500,000,000" each place it appears and inserting "$1,000,000,000", and

(2) by striking "$250,000,000" and inserting "$500,000,000".

(d) INCREASE IN BORROWING AUTHORITY.—

(1) INCREASE IN BORROWING PERMITTED.—Paragraph (2) of section 9509(d) of such Code is amended by striking "$500,000,000" and inserting "$1,000,000,000".

(2) CHANGE IN FINAL REPAYMENT DATE.—Subparagraph (B) of section 9509(d)(3) of such Code is amended by striking "December 31, 1991" and inserting "December 31, 1994".

(e) OTHER CHANGES.—

(1) Paragraph (2) of section 9509(e) of such Code is amended by striking "Comprehensive Oil Pollution Liability and Compensation Act" and inserting "Oil Pollution Act of 1990".

(2) Subparagraph (B) of section 9509(c)(2) of such Code is amended by striking "described in paragraph (1)(A)(i)" and inserting "of removal costs".

(3) Subsection (f) of section 9509 of such Code is amended to read as follows:

"(f) REFERENCES TO OIL POLLUTION ACT OF 1990.—Any reference in this section to the Oil Pollution Act of 1990 or any other Act referred to in a subparagraph of subsection (c)(1) shall be treated as a reference to such Act as in effect on the date of the enactment of this subsection."

SEC. 9002. CHANGES RELATING TO OTHER FUNDS.

26 USC 4612. (a) REPEAL OF PROVISION RELATING TO TRANSFERS TO OIL SPILL LIABILITY FUND.—Subsection (d) of section 4612 of the Internal Revenue Code of 1986 is amended by striking the last sentence.

(b) CREDIT AGAINST OIL SPILL RATE ALLOWED ON AFFILIATED GROUP BASIS.—Subsection (d) of section 4612 of such Code is amended by adding at the end thereof the following new sentence: "For purposes of this subsection, all taxpayers which would be members of the same affiliated group (as defined in section 1504(a)) if section

1504(a)(2) were applied by substituting '100 percent' for '80 percent' shall be treated as 1 taxpayer."

Approved August 18, 1990.

LEGISLATIVE HISTORY—H.R. 1465 (H.R. 3027) (S. 686):

HOUSE REPORTS: No. 101-241, Pt. 1 (Comm. on Public Works and Transportation) and Pt. 2 (Comm. on Science, Space, and Technology), both accompanying H.R. 3027; No. 101-242, Pt. 1 (Comm. on Public Works and Transportation), Pt. 2 (Comm. on Merchant Marine and Fisheries), Pt. 3 (Comm. on Science, Space, and Technology), Pt. 4 (Comm. on Public Works and Transportation), and Pt. 5 (Comm. on Merchant Marine and Fisheries); and No. 101-653 (Comm. of Conference).

SENATE REPORTS: No. 101-94 accompanying S. 686 (Comm. on Environment and Public Works).

CONGRESSIONAL RECORD:

Vol. 135 (1989): Aug. 3, 4, S. 686 considered and passed Senate.
Nov. 2, 8, 9, H.R. 1465 considered and passed House.
Nov. 19, considered and passed Senate, amended, in lieu of S. 686.

Vol. 136 (1990): Aug. 2, Senate agreed to conference report.
Aug. 3, House agreed to conference report.

WEEKLY COMPILATION OF PRESIDENTIAL DOCUMENTS, Vol. 26 (1990):
Aug. 18, Presidential statement.

Public Law 101-391
101st Congress

An Act

To amend the Federal Fire Prevention and Control Act of 1974 to allow for the development and issuance of guidelines concerning the use and installation of automatic sprinkler systems and smoke detectors in places of public accommodation affecting commerce, and for other purposes.

Sept. 25, 1990
[H.R. 94]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Hotel and Motel Fire Safety Act of 1990.
15 USC 2201 note.

SECTION 1. SHORT TITLE.

This Act may be cited as the "Hotel and Motel Fire Safety Act of 1990".

15 USC 2201 note.

SEC. 2. FINDINGS AND PURPOSE.

(a) FINDINGS.—Congress finds that—

(1) more than 400 Americans have lost their lives in multi-story hotel fires over the last 5 years;

(2) when properly installed and maintained, automatic sprinklers and smoke detectors provide the most effective safeguards against the loss of life and property from fire;

(3) automatic sprinklers and smoke detectors should supplement and not supplant other fire protection measures, including existing requirements for fire resistive walls and fire retardant furnishings;

(4) some State and local governments and the hotel industry need to act more rapidly to require the installation and use of automatic sprinkler systems in hotels; and

(5) through the United States Fire Administration and the Center for Fire Research, the Federal Government has helped to develop and promote the use of residential sprinkler systems and other means of fire prevention and control.

(b) PURPOSE.—It is the purpose of this Act to save lives and protect property by promoting fire and life safety in hotels, motels, and all places of public accommodation affecting commerce.

SEC. 3. HOTEL AND MOTEL FIRE PREVENTION AND CONTROL.

State and local governments.

(a) IN GENERAL.—The Federal Fire Prevention and Control Act of 1974 (15 U.S.C. 2201 et seq.) is amended by adding at the end the following new sections:

"LISTINGS OF CERTIFIED PLACES OF PUBLIC ACCOMMODATION

15 USC 2224.

"SEC. 28. (a) SUBMISSIONS BY STATES.—(1) Not later than 2 years after the date of enactment of this section, each State shall, under procedures formulated by the Director, submit to the Director a list of those places of public accommodation affecting commerce located in the State which the Governor of the State or his designee certifies meet the requirements of the guidelines described in section 29.

"(2) The Director shall formulate procedures under which each State shall periodically update the list submitted pursuant to paragraph (1).

Federal Register, publication.

"(b) COMPILATION AND DISTRIBUTION OF MASTER LIST.—(1) Not later than 60 days after the expiration of the 2-year period referred to in subsection (a), the Director shall compile and publish in the Federal Register a national master list of all of the places of public accommodation affecting commerce located in each State that meet the requirements of the guidelines described in section 29, and shall distribute such list to each agency of the Federal Government and take steps to make the employees of such agencies aware of its existence and contents.

"(2) The Director shall periodically update the national master list compiled pursuant to paragraph (1) to reflect changes in the State lists submitted to the Director pursuant to subsection (a), and shall periodically redistribute the updated master list to each agency of the Federal Government.

"(3) For purposes of this subsection, the term 'agency' has the meaning given to it under section 5701(1) of title 5, United States Code.

"FIRE PREVENTION AND CONTROL GUIDELINES FOR PLACES OF PUBLIC ACCOMMODATION

15 USC 2225.

"SEC. 29. (a) CONTENTS OF GUIDELINES.—The guidelines referred to in sections 28 and 30 consist of—

"(1) a requirement that hard-wired, single-station smoke detectors be installed in accordance with National Fire Protection Association Standard 74 in each guest room in each place of public accommodation affecting commerce; and

"(2) a requirement that an automatic sprinkler system be installed in accordance with National Fire Protection Association Standard 13 or 13-R, whichever is appropriate, in each place of public accommodation affecting commerce except those places that are 3 stories or lower.

"(b) EFFECT ON STATE AND LOCAL LAW.—The provisions of this section shall not be construed to limit the power of any State or political subdivision thereof to implement or enforce any law, rule, regulation, or standard concerning fire prevention and control.

"(c) DEFINITIONS.—For purposes of this section, the following definitions shall apply:

"(1) The term 'smoke detector' means an alarm that is designed to respond to the presence of visible or invisible particles of combustion.

"(2) The term 'automatic sprinkler system' means an electronically supervised, integrated system of piping to which sprinklers are attached in a systematic pattern, and which, when activated by heat from a fire, will protect human lives by discharging water over the fire area, and by providing appropriate warning signals (to the extent such signals are required by Federal, State, or local laws or regulations) through the building's fire alarm system.

"DISSEMINATION OF FIRE PREVENTION AND CONTROL INFORMATION

15 USC 2226.

"SEC. 30. The Director, acting through the Administrator, is authorized to take steps to encourage the States to promote the use of automatic sprinkler systems and automatic smoke detection systems, and to disseminate to the maximum extent possible information on the life safety value and use of such systems. Such steps may

include, but need not be limited to, providing copies of the guidelines described in section 29 and of the master list compiled under section 28(b) to Federal agencies, State and local governments, and fire services throughout the United States, and making copies of the master list compiled under section 28(b) available upon request to interested private organizations and individuals.".

(b) DEFINITIONS.—(1) Section 4 of the Federal Fire Prevention and Control Act of 1974 (15 U.S.C. 2203) is amended by redesignating paragraphs (4) and (5) as paragraphs (5) and (6), respectively, by redesignating paragraphs (6) and (7) as paragraphs (8) and (9), respectively, and by inserting immediately after paragraph (3) the following new paragraph:

"(4) 'Director' means the Director of the Federal Emergency Management Agency;".

(2) Section 4 of such Act (as amended by paragraph (1)) is further amended by inserting immediately after paragraph (6), as so redesignated, the following new paragraph:

"(7) 'place of public accommodation affecting commerce' means any inn, hotel, or other establishment not owned by the Federal Government that provides lodging to transient guests, except that such term does not include an establishment treated as an apartment building for purposes of any State or local law or regulation or an establishment located within a building that contains not more than 5 rooms for rent or hire and that is actually occupied as a residence by the proprietor of such establishment;".

SEC. 4. ADHERENCE TO FIRE SAFETY GUIDELINES IN ESTABLISHING RATES AND DISCOUNTS FOR LODGING EXPENSES.

(a) AMENDMENT TO TITLE 5.—Subchapter I of chapter 57 of title 5, United States Code, is amended by inserting immediately after section 5707 the following new section:

"§ 5707a. Adherence to fire safety guidelines in establishing rates and discounts for lodging expenses

"(a) Studies or surveys conducted for the purposes of establishing per diem rates for lodging expenses under this chapter shall be limited to places of public accommodation that meet the requirements of the fire prevention and control guidelines described in section 29 of the Federal Fire Prevention and Control Act of 1974. The provisions of this subsection shall not apply with respect to studies and surveys that are conducted in any jurisdiction that is not a State as defined in section 4 of the Federal Fire Prevention and Control Act of 1974.

"(b) The Administrator of General Services may not include in any directory which lists lodging accommodations any hotel, motel, or other place of public accommodation that does not meet the requirements of the fire prevention and control guidelines described in section 29 of the Federal Fire Prevention and Control Act of 1974.

"(c) The Administrator of General Services shall include in each directory which lists lodging accommodations a description of the access and safety devices, including appropriate emergency alerting devices, which each listed place of public accommodation provides for guests who are hearing-impaired or visually or physically handicapped. Handicapped persons.

"(d) The Administrator of General Services may take any additional actions the Administrator determines appropriate to encour-

age employees traveling on official business to stay at places of public accommodation that meet the requirements of the fire prevention and control guidelines described in section 29 of the Federal Fire Prevention and Control Act of 1974.".

(b) CLERICAL AMENDMENT.—The table of sections at the beginning of chapter 57 of title 5, United States Code, is amended by inserting immediately after the item relating to section 5707 the following new item:

"5707a. Adherence to fire safety guidelines in establishing rates and discounts for lodging expenses.".

5 USC 5707a note.

(c) EFFECTIVE DATE.—The amendments made by this section shall take effect 60 days after the date of the publication in the Federal Register of the master list of certified places of public accommodation maintained by the Director of the Federal Emergency Management Agency pursuant to section 28(b) of the Federal Fire Prevention and Control Act of 1974 (as added by section 3 of this Act).

SEC. 5. ESTABLISHMENT OF APPROVED ACCOMMODATIONS PERCENTAGE FOR FEDERAL AGENCIES.

(a) APPROVED ACCOMMODATIONS PERCENTAGE.—

(1) IN GENERAL.—Section 5707 of title 5, United States Code, is amended by adding at the end the following new subsection:

"(d)(1) Each agency shall ensure that its approved accommodations percentage for a fiscal year shall be not less than—

"(A) 65 percent, for the first fiscal year that begins 4 years after the date of enactment of this subsection;

"(B) 75 percent, for the fiscal year that begins 5 years after the date of enactment of this subsection; and

"(C) 90 percent, for the fiscal year that begins 6 years after the date of enactment of this subsection and for each subsequent fiscal year.

"(2) In this subsection, an agency's 'approved accommodations percentage' for a fiscal year is the percentage determined by multiplying 100 by the quotient of—

"(A) the total number of nights spent by civilian employees of the agency (as described in section 5702(a)) for which payment was made under this chapter for lodging expenses incurred in any State at any approved hotel, motel, or other place of public accommodation not owned by the Federal Government; divided by

"(B) the total number of nights spent by such employees for which payment was made under this chapter for lodging expenses incurred in any State at any hotel, motel, or other place of public accommodation not owned by the Federal Government.

"(3) For purposes of this subsection, a hotel, motel, or other place of public accommodation is approved if it meets the requirements of the fire prevention and control guidelines described in section 29 of the Federal Fire Prevention and Control Act of 1974.

"(4) For purposes of this subsection—

"(A) the term 'agency' does not include the government of the District of Columbia; and

"(B) the term 'State' means any State, the District of Columbia, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, the Trust Territory of the Pacific Islands, the Virgin Islands, the Canal Zone, Guam, American Samoa, or any other territory or possession.".

(2) CONFORMING AMENDMENT.—Section 5701 of such title is amended in the matter preceding paragraph (1) by striking "For the purpose" and inserting "Except as otherwise provided in section 5707(d), for the purpose".

(b) GAO AUDIT OF AGENCY COMPLIANCE.—Not later than 6 months after the last day of the first fiscal year during which lodging expenses are subject to the requirements of section 5707(d) of title 5, United States Code, as added by subsection (a), and not later than 6 months after the last day of every fiscal year thereafter, the Comptroller General shall conduct an audit of the compliance of agencies with the requirements of section 5707(d) of title 5, United States Code (as added by subsection (a)), and shall submit a report to Congress describing the results of such audit. Reports. 5 USC 5707 note.

SEC. 6. PROHIBITING FEDERAL FUNDING OF CONFERENCES HELD AT NON-CERTIFIED PLACES OF PUBLIC ACCOMMODATION. 15 USC 2225a.

(a) IN GENERAL.—No Federal funds may be used to sponsor or fund in whole or in part a meeting, convention, conference, or training seminar that is conducted in, or that otherwise uses the rooms, facilities, or services of, a place of public accommodation that does not meet the requirements of the fire prevention and control guidelines described in section 29 of the Federal Fire Prevention and Control Act of 1974 (as added by section 3(a) of this Act).

(b) WAIVER.—

(1) IN GENERAL.—The head of an agency of the Federal Government sponsoring or funding a particular meeting, convention, conference, or training seminar may waive the prohibition described in subsection (a) if the head of such agency determines that a waiver of such prohibition is necessary in the public interest in the case of such particular event.

(2) DELEGATION OF AUTHORITY.—The head of an agency of the Federal Government may delegate the authority provided under paragraph (1) to waive the prohibition described in subsection (a) and to determine whether such a waiver is necessary in the public interest to an officer or employee of the agency if such officer or employee is given such authority with respect to all meetings, conventions, conferences, and training seminars sponsored or funded by the agency.

(c) NOTICE REQUIREMENTS.—

(1) ADVERTISEMENTS AND APPLICATIONS.—(A) Any advertisement for or application for attendance at a meeting, convention, conference, or training seminar sponsored or funded in whole or in part by the Federal Government shall include a notice regarding the prohibition described in subsection (a).

(B) The requirement described in subparagraph (A) shall not apply in the case of an event for which a head of an agency of the Federal Government, pursuant to subsection (b), waives the prohibition described in subsection (a).

(2) PROVIDING NOTICE TO RECIPIENTS OF FUNDS.—(A) Each Executive department, Government corporation, and independent establishment providing Federal funds to non-Federal entities shall notify recipients of such funds of the prohibition described in subsection (a).

(B) In subparagraph (A), the terms "Executive department", "Government corporation", and "independent establishment" have the meanings given such terms in chapter 1 of title 5, United States Code.

(d) EFFECTIVE DATE.—The provisions of this section shall take effect on the first day of the first fiscal year that begins after the expiration of the 425-day period that begins on the date of the publication in the Federal Register of the master list referred to in section 28(b) of the Federal Fire Prevention and Control Act of 1974 (as added by section 3 of this Act).

15 USC 2201 note.

SEC. 7. WAIVER OF FEDERAL LIABILITY.

In any action for damages resulting from a fire at a place of public accommodation, the Federal Government may not be found liable for the death of or injury to any person or damage to any property because an officer or employee of the Federal Government was negligent in carrying out any requirement under this Act or the amendments made by this Act.

15 USC 2201 note.

SEC. 8. EFFECT ON CERTAIN REQUIREMENTS.

Nothing in this Act shall be construed to encourage model building code organizations, or State or local governments, to reduce requirements for fire resistive walls or other safety features.

Approved September 25, 1990.

LEGISLATIVE HISTORY—H.R. 94:

HOUSE REPORTS: No. 101-357 (Comm. on Science, Space, and Technology).
SENATE REPORTS: No. 101-408 (Comm. on Commerce, Science, and Transportation).
CONGRESSIONAL RECORD:
Vol. 135 (1989): Nov. 17, considered and passed House.
Vol. 136 (1990): Aug. 3, considered and passed Senate, amended.
Sept. 10, House concurred in Senate amendment.

Public Law 101-425
101st Congress

An Act

To require the Secretary of Energy to establish Centers for Metal Casting Competitiveness Research.

Oct. 15, 1990
[H.R. 1243]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Department of Energy Metal Casting Competitiveness Research Act of 1990.
Science and technology.
15 USC 5301 note.

SECTION 1. SHORT TITLE.

This Act may be cited as the "Department of Energy Metal Casting Competitiveness Research Act of 1990".

SEC. 2. FINDINGS.

15 USC 5301.

The Congress finds that—

(1) metal casting is an important process for manufacturing many items imported into or exported from the United States;

(2) the encouragement and maintenance of a technically advanced United States metal casting industry is essential to the competitiveness of many American industries;

(3) maintaining a viable metal casting industry is vital to the national security and economic well being of the United States;

(4) the promotion of technology competitiveness and energy efficiency in the United States metal casting industry by the Federal Government is necessary to maintain a viable metal casting industry;

(5) many metal casting companies lack the resources to conduct metal casting research alone, placing them at a serious competitive disadvantage;

(6) the support of university-based research in metal casting is important in promoting technology development and providing industry with qualified engineers; and

(7) by combining the resources of the Federal Government, universities, industry, and private organizations, to conduct research and development activities, substantial technological benefits will result to the metal casting industry.

SEC. 3. DEFINITIONS.

15 USC 5302.

As used in this Act, the term—

(1) "applicant" means:

(A) an educational institution;

(B) a consortium of educational institutions;

(C) a consortium of an educational institution or educational institutions with one or more of the following: Government-owned laboratories, private research organizations, nonprofit institutions, or private firms;

that is located in a region where the metal casting industry is concentrated;

(2) "census region" means one of the four census regions (Northeast, South, Midwest, and West) that are designated as

census regions by the Bureau of the Census as of the date of enactment of this Act;

(3) "Department" means the Department of Energy;

(4) "educational institution" means a degree granting institution of at least a baccalaureate level;

(5) "non-Federal source" means the United States metal casting industry, related industries, industry-related associations, individuals, organizations, universities, State agencies, or other entities supporting the metal casting industry;

(6) "metal casting industry" or "industry" means the industries identified by codes numbered 3321, 3322, 3324, 3325, 3363, 3364, 3365, 3366, and 3369, in the Standard Industrial Classification manual published by the Office of Management and Budget in 1987;

(7) "Secretary" means the Secretary of Energy.

15 USC 5303.

SEC. 4. ESTABLISHMENT OF PROGRAM.

The Secretary, acting in accordance with authority provided in the Federal Non-Nuclear Research and Development Act of 1974 (42 U.S.C. 5901 et seq.), except as otherwise provided in this Act, shall establish a Metal Casting Competitiveness Research Program (hereafter in this Act referred to as the "Program") for the purpose of performing and promoting the performance of research and development on issues related to the technology competitiveness and energy efficiency of the United States metal casting industry.

15 USC 5304.

SEC. 5. OPERATION OF PROGRAM.

(a) SOLICITATION OF PROPOSALS.—Within one year after the date of enactment of this Act, the Secretary shall solicit and, subject to available appropriations, select proposals on a competitive basis from applicants to carry out the program under section 4. In order for a proposal to be considered by the Secretary, the applicant shall have in existence at the time the proposal is submitted the following qualifications:

(1) the technical capability to enable it to make use of existing research support and facilities in carrying out its research objectives;

(2) a multidisciplinary research staff experienced in metal casting or other directly related technologies; and

(3) the facilities and equipment capable of conducting at least laboratory scale testing or demonstration of metal casting or related processes.

(b) PROPOSAL CRITERIA.—Each proposal shall—

(1) demonstrate the support of the metal casting industry by describing—

(A) how industry has participated in deciding what research activities will be undertaken;

(B) how industry will participate in the evaluation of the applicant's progress in research and development activities; and

(C) the extent to which industry funds are committed to the applicant's proposal;

(2) have a commitment for matching funds from non-Federal sources, which shall consist of:

(A) cash, or

(B) as determined by the Secretary, the fair market value of equipment, services, materials, appropriate tech-

nology transfer activities, and other assets directly related to the proposal's cost;

(3) include a single or multiyear management plan that outlines how the research and development activities will be administered and carried out;

(4) state the annual cost of the proposal and a breakdown of those costs; and

(5) describe the technology transfer mechanisms the applicant will use to make available research results to industry and to other researchers.

(c) CONTENT OF MANAGEMENT PLAN.—The management plan set forth in subsection 5(b)(3) shall—

(1) outline the basic research and development activities expected to be performed;

(2) outline who will conduct those research activities;

(3) establish the time frame over which the research activities will take place; and

(4) define the overall program management and direction by—

(A) identifying managerial, organizational and administrative procedures and responsibilities;

(B) outlining how the coordination of research and development between the individuals and organizations involved will be achieved;

(C) demonstrating how implementation and monitoring of the progress of research projects after receipt of funding from the Secretary will be achieved;

(D) demonstrating how recommendations and implementations on modifications to the plan will be achieved; and

(E) providing sufficient rationale to support the plan's costs.

(d) SELECTION OF PROPOSALS.—From the proposals submitted, the Secretary shall select proposals for funding. The Secretary shall attempt to select at least four proposals. The Secretary shall select the proposals that—

(1) will best result in carrying out needed metal casting research and development in one or more of the following general areas—

(A) solidification and casting technologies;

(B) computational modeling and design;

(C) processing technologies and design for energy efficiency, material conservation, environmental protection, or industrial productivity; and

(D) other areas of research, which in the judgment of the Secretary, after consulting with the Board established in section 7, further the purposes of this Act;

(2) represent research and development in specific areas identified in the "Metal Casting Research Priorities" developed annually by the Board pursuant to subsection 7(b)(1);

(3) to the greatest extent possible and subject to available appropriations, ensure that at least one applicant is selected from each of the four census regions of the country where the metal casting industry is concentrated;

(4) demonstrate strong industry support;

(5) ensure the timely transfer of technology to industry; and

(6) otherwise best carry out the purposes of this Act.

(e) FUNDING OF PROGRAM.—From amounts made available in separate appropriation Acts, the Secretary shall provide to each applicant selected the financial and technical assistance and other incentives that are necessary and appropriate to carry out the purposes of this Act.

(f) NATIONAL METAL CASTING RESEARCH INSTITUTE.—Each recipient of financial assistance under subsection (d) shall be known as a "National Metal Casting Research Institute".

15 USC 5305.

SEC. 6. REVIEW.

(a) EVALUATION OF RESEARCH ACTIVITIES.—The Secretary shall regularly monitor and evaluate the research activities of the applicants selected. After considering the reports of the Board provided for in subsection 7(b)(2), the Secretary shall determine whether each applicant selected has complied with the management plan submitted in the original proposal and any modifications made since.

(b) ANNUAL REPORT.—Each selected applicant in the program shall provide an annual report to the Secretary that explains the progress made, compliance with the management plan, whether changes are needed and are being made to the management plan, and what new research is planned.

(c) DISCONTINUATION OF FUNDING.—In the event a selected applicant has substantially failed in the implementation of the management plan and research activities, the Secretary shall discontinue funding.

(d) SOLICITATION OF NEW PROPOSALS.—Upon completion or discontinuance of any research activity authorized in section 5, the Secretary shall, using available funds appropriated pursuant to this Act, solicit new research proposals as set forth under the terms of this Act.

15 USC 5306.

SEC. 7. INDUSTRIAL ADVISORY BOARD.

(a) ESTABLISHMENT OF BOARD.—Within 120 days after the date of the enactment of this Act the Secretary, after consulting with representatives of trade and technical associations of the metal casting industry, shall establish an Industrial Advisory Board (hereafter in this Act referred to as the "Board") to provide guidance and oversight in implementing the selection criteria and operation of the program. The Board shall be composed of nine members who are selected by the Secretary, a majority of whom shall be individuals from the metal casting industry or individuals affiliated with the industry. At least one member of the Board shall be chosen from each of the four census regions of the country. Each Board member shall serve for a term not to exceed five years, but may be reappointed for successive terms.

(b) REVIEW AND RECOMMENDATIONS.—

(1) Within 180 days after the date of the enactment of this Act and annually thereafter, the Board shall develop from the general research areas identified in section 5(d) and submit to the Secretary a list of Metal Casting Research Priorities. Such list shall, to the greatest extent possible, identify specific areas of research that would be considered of a priority nature to the United States metal casting industry.

(2) On an annual basis the Board shall—

(A) review the Secretary's solicitation and selection of research proposals and make recommendations as to how

each such activity can be altered so as to better achieve the purposes of this Act; and

(B) review the research activities of each selected applicant, and the selected applicant's management plan, and report its findings and recommendations to the Secretary. Reports.

SEC. 8. AUTHORIZATION OF APPROPRIATIONS. 15 USC 5307.

There are authorized to be appropriated to the Secretary for carrying out this Act $5,000,000 for each of the fiscal years 1991, 1992, and 1993.

SEC. 9. PROTECTION OF PROPRIETARY RIGHTS. 15 USC 5308.

(a) PROPRIETARY RIGHTS.—No trade secrets or commercial or financial information that is privileged or confidential, under the meaning of section 552(b)(4) of title 5, United States Code, which is obtained from a company as a result of activities under this Act shall be disclosed.

(b) COMMERCIAL INFORMATION.—The Secretary, for a period of up to 5 years after the development of information that—

(1) results from research and development activities conducted under this Act; and

(2) would be a trade secret or commercial or financial information that is privileged or confidential, under the meaning of section 552(b)(4) of title 5, United States Code, if the information had been obtained from a company,

may provide appropriate protection against the dissemination of such information, including exemption from subchapter II of chapter 5 of title 5, United States Code.

(c) PATENT RIGHTS.—With respect to patent rights, the Institutes shall be treated in the same manner as are nonprofit organizations and small business firms under chapter 18 of title 35, United States Code, notwithstanding any provisions to the contrary contained in that chapter.

SEC. 10. REPORTING. 15 USC 5309.

At the time the President's annual budget request for the Department is submitted, the Secretary shall provide to Congress a detailed review of the progress of the research and development activities authorized under this Act.

Approved October 15, 1990.

LEGISLATIVE HISTORY—H.R. 1243:

HOUSE REPORTS: No. 101-410 (Comm. on Science, Space, and Technology).
SENATE REPORTS: No. 101-258 (Comm. on Energy and Natural Resources).
CONGRESSIONAL RECORD, Vol. 136 (1990):
Mar. 6, considered and passed House.
Apr. 3, considered and passed Senate, amended.
Sept. 24, House agreed to Senate amendment with amendments.
Sept. 28, Senate concurred in House amendments.

NATIONAL NUTRITION MONITORING AND RELATED RESEARCH ACT OF 1990

Public Law 101-445
101st Congress

An Act

To strengthen national nutrition monitoring by requiring the Secretary of Agriculture and the Secretary of Health and Human Services to prepare and implement a ten-year plan to assess the dietary and nutritional status of the United States population, to support research on, and development of, nutrition monitoring, to foster national nutrition education, to establish dietary guidelines, and for other purposes.

Oct. 22, 1990
[H.R. 1608]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

National Nutrition Monitoring and Related Research Act of 1990.
Intergovernmental relations.
Business and industry.
Health professions.
Science and technology.
7 USC 5301 note.

SECTION 1. SHORT TITLE.

This Act may be cited as the "National Nutrition Monitoring and Related Research Act of 1990".

7 USC 5301.

SEC. 2. PURPOSES.

The purposes of this Act are to—

(1) make more effective use of Federal and State expenditures for nutrition monitoring, and enhance the performance and benefits of current Federal nutrition monitoring and related research activities;

(2) establish and facilitate the timely implementation of a coordinated National Nutrition Monitoring and Related Research Program, and thereby provide a scientific basis for the maintenance and improvement of the nutritional status of the people of the United States and the nutritional quality (including, but not limited to, nutritive and nonnutritive content) of food consumed in the United States;

(3) establish and implement a comprehensive plan for the National Nutrition Monitoring and Related Research Program to assess, on a continuing basis, the dietary and nutritional status of the people of the United States and the trends with respect to such status, the state of the art with respect to nutrition monitoring and related research, future monitoring and related research priorities, and the relevant policy implications;

(4) establish and improve the quality of national nutritional and health status data and related data bases and networks, and stimulate research necessary to develop uniform indicators, standards, methodologies, technologies, and procedures for nutrition monitoring;

(5) establish a central Federal focus for the coordination, management, and direction of Federal nutrition monitoring activities;

(6) establish mechanisms for addressing the nutrition monitoring needs of Federal, State, and local governments, the private sector, scientific and engineering communities, health care professionals, and the public in support of the foregoing purposes; and

(7) provide for the conduct of such scientific research and development as may be necessary or appropriate in support of such purposes.

SEC. 3 DEFINITIONS. 7 USC 5302.

As used in this Act—

(1) the term "comprehensive plan" means the comprehensive plan prepared under section 103;

(2) the term "coordinated program" means the National Nutrition Monitoring and Related Research Program established by section 101(a);

(3) the terms "Interagency Board for Nutrition Monitoring and Related Research" and "Board" mean the Federal coordinating body established by section 101(c);

(4) the term "Joint Implementation Plan for a Comprehensive National Nutrition Monitoring System" means the plan of that title dated August 18, 1981 and submitted by the Department of Agriculture and the Department of Health and Human Services under section 1428 of the Food and Agriculture Act of 1977 (7 U.S.C. 3178);

(5) the term "local government" means a local general unit of government or local educational unit;

(6) the terms "National Nutrition Monitoring Advisory Council" and "Council" mean the advisory body established under section 201;

(7) the term "nutrition monitoring and related research" means the set of activities necessary to provide timely information about the role and status of factors that bear on the contribution that nutrition makes to the health of the people of the United States, including—

(A) dietary, nutritional, and health status measurements;

(B) food consumption measurements;

(C) food composition measurements and nutrient data banks;

(D) dietary knowledge and attitude measurements; and

(E) food supply and demand determinations;

(8) the term "nutritional quality" means—

(A) the appropriate levels of individual nutrients in the diet;

(B) the appropriate levels between nutrients in the diet;

(C) the bioavailability of nutrients such as absorption, digestion, and utilization; and

(D) the nutritional importance of nonnutrient substances such as fiber, phytate, and such substances that are naturally found in the food supply; and

(9) the term "Secretaries" means the Secretary of Agriculture and the Secretary of Health and Human Services, acting jointly.

TITLE I—NUTRITION MONITORING AND RELATED RESEARCH

SEC. 101. ESTABLISHMENT OF THE COORDINATED PROGRAM. 7 USC 5311.

(a) IN GENERAL.—There is established a ten-year coordinated program, to be known as the National Nutrition Monitoring and Related Research Program, to carry out the purposes of this Act.

(b) IMPLEMENTATION RESPONSIBILITY.—The Secretaries shall be responsible for the implementation of the coordinated program.

(c) ESTABLISHMENT OF BOARD.—To assist in implementing the coordinated program, there is established an Interagency Board for Nutrition Monitoring and Related Research, of which an Assistant Secretary in the Department of Agriculture (designated by the Secretary of Agriculture) and an Assistant Secretary in the Department of Health and Human Services (designated by the Secretary of Health and Human Services) shall be joint chairpersons. The remaining membership of the Board shall consist of additional representatives of Federal agencies, as determined appropriate by the joint chairpersons of the Board. The Board shall meet no less often than once every three months for the two-year period following the date of the enactment of this Act, and when appropriate thereafter.

(d) ADMINISTRATOR.—To establish a central focus and coordinator for the coordinated program, the Secretaries may appoint an Administrator of Nutrition Monitoring and Related Research. The Administrator shall—

(1) be an individual who is eminent in the field of nutrition monitoring and related areas and be selected on the basis of the established record of expertise and distinguished service of such individual; and

(2) administer the coordinated program with the advice and counsel of the joint chairpersons of the Board, serve as the focal point for the coordinated program, and serve as the Executive Secretary for the National Nutrition Monitoring Advisory Council.

7 USC 5312.

SEC. 102. FUNCTIONS OF THE SECRETARIES.

(a) IN GENERAL.—The Secretaries, with the advice of the Board, shall—

(1) establish the goals of the coordinated program, identify the activities required to meet such goals, and identify the responsible agencies with respect to the coordinated program;

(2) update the Joint Implementation Plan for a Comprehensive National Nutrition Monitoring System, and integrate it into the coordinated program;

(3) ensure the timely implementation of the coordinated program and the comprehensive plan prepared under section 103;

Grant programs—research.

(4) include in the coordinated program and the comprehensive plan a competitive grants program, to be implemented to the extent funds are available, in accordance with the provisions of this Act to encourage and assist the conduct, by Federal entities, and by non-Federal entities on an appropriate matching funds basis, of research (including research described in section 103(a)(3)) that will accelerate the development of uniform and cost-effective standards and indicators for the assessment and monitoring of nutritional and dietary status and for relating food consumption patterns to nutritional and health status;

Grant programs—nutrition.

(5) include in the coordinated program and the comprehensive plan a grants program, in accordance with the provisions of this Act, to encourage and assist State and local governments in developing the capacity to conduct monitoring and surveillance of nutritional status, food consumption, and nutrition knowledge and in using such capacity to enhance nutrition services (including activities described in section 103(a)(5) and 103(b)(9));

(6) include in the coordinated program each fiscal year an annual interagency budget for each fiscal year of the program;

(7) foster productive interaction, with respect to nutrition monitoring and related research, among Federal efforts, State and local governments, the private sector, scientific communities, health professionals, and the public;

(8)(A) contract with a scientific body, such as the National Academy of Sciences or the Federation of American Societies for Experimental Biology, to interpret available data analyses, and publish every two years, or more frequently if appropriate, except as provided in subparagraph (B), a report on the dietary, nutritional, and health-related status of the people of the United States and the nutritional quality (including the nutritive and nonnutritive content) of food consumed in the United States; or

Government contracts. Reports.

(B) if the Secretaries determine that sufficient data analyses are not available to warrant interpretation of such data analyses, inform Congress of such fact at the time a report required in subparagraph (A) would have been published, and publish such report at least once every five years; and

(9)(A) foster cost recovery management techniques in the coordinated program; and

(B) impose appropriate charges and fees for publications of the coordinated program, including print and electronic forms of data and analysis, and use the proceeds of such charges and fees for purposes of the coordinated program (except that no such charge or fee imposed on an educational or other nonprofit organization shall exceed the actual costs incurred by the coordinated program in providing the publications involved).

(b) BIENNIAL REPORT.—The Secretaries shall submit to the President for transmittal to Congress by January 15 of each alternate year, beginning with January 15 following the date of the enactment of this Act, a biennial report that shall—

(1) evaluate the progress of the coordinated program;

(2) summarize the results of such coordinated program components as are developed under section 103;

(3) describe and evaluate any policy implications of the analytical findings in the scientific reports required under subsection (a)(8), and future priorities for nutrition monitoring and related research;

(4) include in full the annual reports of the Council provided for in section 202; and

(5) include an executive summary of the report most recently published by the scientific body, as provided for in subsection (a)(8).

SEC. 103. DEVELOPMENT OF THE COMPREHENSIVE PLAN FOR THE NATIONAL NUTRITION MONITORING AND RELATED RESEARCH PROGRAM.

7 USC 5313.

(a) COMPREHENSIVE PLAN.—The Secretaries, with the advice of the Board, shall prepare and implement a comprehensive plan for the coordinated program which shall be designed to—

Reports. Infants and children. Aged. Disadvantaged persons. Minorities. Women.

(1) assess, collate data with respect to, analyze, and report, on a continuous basis, the dietary and nutritional status of the people of the United States, and the trends with respect to such status (dealing with such status and trends separately in the case of preschool and school-age children, pregnant and lactat-

ing women, elderly individuals, low-income populations, blacks, Hispanics, and other groups, at the discretion of the Secretaries), the state of the art with respect to nutrition monitoring and related research, future monitoring and related research priorities, and relevant policy implications of findings with respect to such status, trends, and research;

(2) sample representative subsets of identifiable low-income populations (such as Native Americans, Hispanics, or the homeless), and assess, analyze, and report, on a continuous basis, for a representative sample of the low-income population, food and household expenditures, participation in food assistance programs, and periods experienced when nutrition benefits are not sufficient to provide an adequate diet;

(3) sponsor or conduct research necessary to develop uniform indicators, standards, methodologies, technologies, and procedures for conducting and reporting nutrition monitoring and surveillance;

(4) develop and keep updated a national dietary and nutritional status data bank, a nutrient data bank, and other data resources as required;

(5) assist State and local government agencies in developing procedures and networks for nutrition monitoring and surveillance; and

(6) focus the nutrition monitoring activities of Federal agencies.

(b) COMPONENTS OF PLAN.—The comprehensive plan, at a minimum, shall include components to—

(1) maintain and coordinate the National Health and Nutrition Examination Survey (NHANES) and the Nationwide Food Consumption Survey (NFCS);

(2) provide, by 1991, for the continuous collection, processing, and analysis of nutritional and dietary status data through stratified probability samples of the people of the United States designed to permit statistically reliable estimates of high-risk groups and geographic areas, and to permit accelerated data analysis (including annual analysis, as appropriate);

(3) maintain and enhance other Federal nutrition monitoring efforts such as the Centers for Disease Control Nutrition Surveillance Program and the Food and Drug Administration Total Diet Study, and, to the extent possible, coordinate such efforts with the surveys described in paragraphs (1) and (2);

(4) incorporate, in survey design, military and (where appropriate) institutionalized populations;

(5) complete the analysis and interpretation of the data sets from the surveys described in paragraph (1) collected prior to 1984 within the first year of the comprehensive plan;

(6) improve the methodologies and technologies, including those suitable for use by States and localities, available for the assessment of nutritional and dietary status and trends;

(7) develop uniform standards and indicators for the assessment and monitoring of nutritional and dietary status, for relating food consumption patterns to nutritional and health status, and for use in the evaluation of Federal food and nutrition intervention programs;

(8) establish national baseline data and procedures for nutrition monitoring;

(9) provide scientific and technical assistance, training, and consultation to State and local governments for the purpose of—

(A) obtaining dietary and nutrition status data;

(B) developing related data bases; and

(C) promoting the development of regional, State, and local data collection services to become an integral component of a national nutritional status network;

(10) establish mechanisms to identify the needs of users of nutrition monitoring data and to encourage the private sector and the academic community to participate in the development and implementation of the comprehensive plan and contribute relevant data from non-Federal sources to promote the development of a national nutritional status network;

(11) compile an inventory of Federal, State, and nongovernment activities related to nutrition monitoring and related research;

(12) focus on national nutrition monitoring needs while building on the responsibilities and expertise of the individual membership of the Board;

(13) administer the coordinated program, define program objectives, priorities, oversight, responsibilities, and resources, and define the organization and management of the Board and the Council; and

(14) provide a mechanism for periodically evaluating and refining the coordinated program and the comprehensive plan that facilitates cooperation and interaction by State and local governments, the private sector, scientific communities, and health care professionals, and that facilitates coordination with non-Federal activities.

(c) ADDITIONAL REQUIREMENTS OF PLAN.—The comprehensive plan shall—

(1) allocate all of the projected functions and activities under the coordinated program among the various Federal agencies and offices that will be involved;

(2) contain an affirmative statement and description of the functions to be performed and activities to be undertaken by each of such agencies and offices in carrying out the coordinated program; and

(3) constitute the basis on which each agency participating in the coordinated program requests authorizations and appropriations for nutrition monitoring and related research during the ten-year period of the program.

(d) PUBLICATION OF PLAN.—(1) PROPOSED PLAN.—Within 12 months after the date of enactment of this Act, the Secretaries shall publish in the Federal Register a proposed comprehensive plan for public review for a comment period of no less than sixty days. Federal Register, publication.

(2) FINAL PLAN.—Within sixty days after the comment period under paragraph (1) expires, and after considering any comments received, the Secretaries shall submit to the President, for submission to the Congress and for publication in the Federal Register, the final comprehensive plan.

(e) PROHIBITION ON CONSTRUING.—Nothing in this section may be construed as modifying, or as authorizing the Secretaries or the comprehensive plan to modify, any provision of an appropriation Act (or any other provision of law relating to the use of appropriated funds) that specifies—

(1) the department or agency to which funds are appropriated; or

(2) the obligations of such department or agency with respect to the use of such funds.

7 USC 5314.

SEC. 104. IMPLEMENTATION OF THE COMPREHENSIVE PLAN.

(a) IN GENERAL.—The comprehensive plan shall be carried out during the period ending with the close of the ninth fiscal year following the fiscal year in which the comprehensive plan is submitted in its final form under section 103(d)(2) and shall be—

(1) carried out in accordance with, and meet the program objectives specified in, section 103(a) and section 103(b);

(2) carried out, by the Federal agencies involved, in accordance with the allocation of functions and activities under section 103(c); and

(3) funded by appropriations made to such agencies for each fiscal year of the program.

(b) EXISTING LAW NOT AFFECTED.—Nothing in this title may be construed to grant any new regulatory authority or to limit, expand, or otherwise modify any regulatory authority under existing law, or to establish new criteria, standards, or requirements for regulation under existing law.

7 USC 5315.

SEC. 105. SCIENTIFIC RESEARCH AND DEVELOPMENT IN SUPPORT OF THE COORDINATED PROGRAM AND COMPREHENSIVE PLAN.

The Secretaries shall coordinate the conduct of, and may contract with the National Science Foundation, the National Aeronautics and Space Administration, the National Oceanic and Atmospheric Administration, the National Institute of Standards and Technology, and other suitable Federal agencies for, such scientific research and development as may be necessary or appropriate in support of the coordinated program and the comprehensive plan and in furtherance of the purposes and objectives of this Act.

7 USC 5316.

SEC. 106. ANNUAL BUDGET SUBMISSION.

(a) ANNUAL REPORT.—The President, at the same time as the submission of the annual budget to the Congress, shall submit a report to the Committees on Agriculture and Science, Space, and Technology of the House of Representatives and to the Committees on Agriculture, Nutrition, and Forestry and Governmental Affairs of the Senate on expenditures required for carrying out the coordinated program and implementing the comprehensive plan. The report shall detail, for each of the agencies that are allocated responsibilities under the coordinated program—

(1) the amounts spent on the coordinated program during the fiscal year most recently ended;

(2) the amounts expected to be spent during the current fiscal year; and

(3) the amounts requested in the annual budget for the fiscal year for which the budget is being submitted.

(b) EXISTING AUTHORITY NOT AFFECTED.—Nothing in this title is intended to either—

(1) authorize the appropriation or require the expenditure of any funds in excess of the amount of funds that would be authorized or expended for the same purposes in the absence of the coordinated program; or

(2) limit the authority of any of the participating agencies to request and receive funds for such purposes (for use in the coordinated program) under other laws.

TITLE II—NATIONAL NUTRITION MONITORING ADVISORY COUNCIL

SEC. 201. STRUCTURE OF THE COUNCIL.

7 USC 5331.

President.

(a) IN GENERAL.—(1) ESTABLISHMENT.—The President shall establish, within ninety days after the date of the enactment of this Act, a National Nutrition Monitoring Advisory Council. The Council shall assist in carrying out the purposes of this Act, provide scientific and technical advice on the development and implementation of the coordinated program and comprehensive plan, and serve in an advisory capacity to the Secretaries.

(2) MEMBERSHIP.—The Council shall consist of nine voting members, of whom—

(A) five members shall be appointed by the President based upon recommendations from the Secretaries; and

(B) four members shall be appointed by Congress, of whom—

(i) one shall be appointed by the Speaker of the House of Representatives;

(ii) one shall be appointed by the minority leader of the House of Representatives;

(iii) one shall be appointed by the President pro tempore of the Senate; and

(iv) one shall be appointed by the minority leader of the Senate.

(3) EX OFFICIO MEMBERS.—The Council also shall include the joint chairpersons of the Board as ex officio nonvoting members.

(b) SELECTION CRITERIA.—Each person appointed to the Council shall be selected solely on the basis of an established record of distinguished service and shall be eminent in one of the following fields:

(1) public health, including clinical dietetics, public health nutrition, epidemiology, clinical medicine, health education, or nutrition education;

(2) nutrition monitoring research, including nutrition monitoring and surveillance, food consumption patterns, nutritional anthropology, community nutrition research, nutritional biochemistry, food composition analysis, survey statistics, dietary-intake methodology, or nutrition status methodology; or

(3) food production and distribution, including agriculture, biotechnology, food technology, food engineering, economics, consumer psychology or sociology, food-system management, or food assistance.

(c) PARTICULAR REPRESENTATION REQUIREMENTS.—The Council membership, at all times, shall include at least two representatives from each of the three areas of specialization listed in subsection (b), and shall have representatives from various geographic areas, the private sector, academia, scientific and professional societies, agriculture, minority organizations, and public interest organizations and shall include a State or local government employee with a specialized interest in nutrition monitoring.

38-597 0 - 91 - 25

(d) CHAIRPERSON.—The Chairperson of the Council shall be elected from and by the Council membership. The term of office of the Chairperson shall not exceed 5 years. If a vacancy occurs in the Chairpersonship, the Council shall elect a member to fill such vacancy.

(e) TERM OF OFFICE.—The term of office of each of the voting members of the Council shall be 5 years, except that of the 5 members first appointed by the President, 2 shall be appointed for a term of 2 years, 2 for terms of 3 years, and one for a term of 4 years, as designated by the President at the time of appointment. Any member appointed to fill a vacancy occurring prior to the expiration of the term for which the predecessor of such member was appointed shall be appointed for the remainder of such term. No voting member shall be eligible to serve continuously for more than 2 consecutive terms.

(f) INITIAL APPOINTMENT.—The initial members of the Council shall be appointed or designated not later than ninety days after the date of the enactment of this Act.

(g) MEETINGS.—The Council shall meet on a regular basis at the call of the Chairperson, or on the written request of one-third of the members. A majority of the appointed members of the Council shall constitute a quorum.

(h) LIMITATION ON FEDERAL EMPLOYMENT.—Appointed members of the Council may not be employed by the Federal Government and shall be allowed travel expenses as authorized by section 5703 of title 5, United States Code.

(i) EXECUTIVE SECRETARY.—The Administrator of Nutrition Monitoring and Related Research (if appointed under section 101(d)) shall serve as the Executive Secretary of the Council.

(j) TERMINATION.—The Council shall terminate 10 years after the final comprehensive plan is prepared under section 103.

7 USC 5332.

SEC. 202. FUNCTIONS OF THE COUNCIL.

The Council shall—

(1) provide scientific and technical advice on the development and implementation of all components of the coordinated program and the comprehensive plan;

(2) evaluate the scientific and technical quality of the comprehensive plan and the effectiveness of the coordinated program;

(3) recommend to the Secretaries, on an annual basis, means of enhancing the comprehensive plan and the coordinated program; and

Reports.

(4) submit to the Secretaries annual reports that—

(A) shall contain the components specified in paragraphs (2) and (3); and

(B) shall be included in full in the biennial reports of the Secretaries to the President for transmittal to Congress under section 102(b).

TITLE III—DIETARY GUIDANCE

7 USC 5341.

SEC. 301. ESTABLISHMENT OF DIETARY GUIDELINES.

(a) REPORT.—(1) IN GENERAL.—At least every five years the Secretaries shall publish a report entitled "Dietary Guidelines for Americans". Each such report shall contain nutritional and dietary

information and guidelines for the general public, and shall be promoted by each Federal agency in carrying out any Federal food, nutrition, or health program.

(2) BASIS OF GUIDELINES.—The information and guidelines contained in each report required under paragraph (1) shall be based on the preponderance of the scientific and medical knowledge which is current at the time the report is prepared.

(b) APPROVAL BY SECRETARIES.—(1) REVIEW.—Any Federal agency that proposes to issue any dietary guidance for the general population or identified population subgroups shall submit the text of such guidance to the Secretaries for a sixty-day review period.

(2) BASIS OF REVIEW.—(A) IN GENERAL.—During the sixty-day review period established in paragraph (1), the Secretaries shall review and approve or disapprove such guidance to assure that the guidance either is consistent with the "Dietary Guidelines for Americans" or that the guidance is based on medical or new scientific knowledge which is determined to be valid by the Secretaries. If after such sixty-day period neither Secretary notifies the proposing agency that such guidance has been disapproved, then such guidance may be issued by the agency. If both Secretaries disapprove of such guidance, it shall be returned to the agency. If either Secretary finds that such guidance is inconsistent with the "Dietary Guidelines for Americans" and so notifies the proposing agency, such agency shall follow the procedures set forth in this subsection before disseminating such proposal to the public in final form. If after such sixty-day period, either Secretary disapproves such guidance as inconsistent with the "Dietary Guidelines for Americans" the proposing agency shall—

(i) publish a notice in the Federal Register of the availability of the full text of the proposal and the preamble of such proposal which shall explain the basis and purpose for the proposed dietary guidance; Federal Register, publication.

(ii) provide in such notice for a public comment period of thirty days; and

(iii) make available for public inspection and copying during normal business hours any comment received by the agency during such comment period.

(B) REVIEW OF COMMENTS.—After review of comments received during the comment period either Secretary may approve for dissemination by the proposing agency a final version of such dietary guidance along with an explanation of the basis and purpose for the final guidance which addresses significant and substantive comments as determined by the proposing agency.

(C) ANNOUNCEMENT.—Any such final dietary guidance to be disseminated under subparagraph (B) shall be announced in a notice published in the Federal Register, before public dissemination along with an address where copies may be obtained. Federal Register, publication.

(D) NOTIFICATION OF DISAPPROVAL.—If after the thirty-day period for comment as provided under subparagraph (A)(ii), both Secretaries disapprove a proposed dietary guidance, the Secretaries shall notify the Federal agency submitting such guidance of such disapproval, and such guidance may not be issued, except as provided in subparagraph (E).

(E) REVIEW OF DISAPPROVAL.—If a proposed dietary guidance is disapproved by both Secretaries under subparagraph (D), the Federal agency proposing such guidance may, within fifteen days after receiving notification of such disapproval under subparagraph (D),

request the Secretaries to review such disapproval. Within fifteen days after receiving a request for such a review, the Secretaries shall conduct such review. If, pursuant to such review, either Secretary approves such proposed dietary guidance, such guidance may be issued by the Federal agency.

(3) LIMITATION ON DEFINITION OF GUIDANCE.—For purposes of this subsection, the term "dietary guidance for the general population" does not include any rule or regulation issued by a Federal agency.

(4) DEFINITION OF IDENTIFIED POPULATION SUBGROUPS.—For purposes of this subsection, the term "identified population subgroups" shall include, but not be limited to, groups based on factors such as age, sex, or race.

(c) EXISTING AUTHORITY NOT AFFECTED.—This section does not place any limitations on—

(1) the conduct or support of any scientific or medical research by any Federal agency;

(2) the presentation of any scientific or medical findings or the exchange or review of scientific or medical information by any Federal agency; or

(3) the authority of the Food and Drug Administration under the provisions of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 321 et seq.).

7 USC 5342.

SEC. 302. NUTRITION TRAINING REPORT.

The Secretary of Health and Human Services, in consultation with the Secretaries of Agriculture, Education, and Defense, and the Director of the National Science Foundation, shall submit, within one year after the date of enactment of this Act, a report describing the appropriate Federal role in assuring that students enrolled in United States medical schools and physicians practicing in the United States have access to adequate training in the field of nutrition and its relationship to human health.

Approved October 22, 1990.

LEGISLATIVE HISTORY—H.R. 1608:

HOUSE REPORTS: No. 101-788 (Comm. on Agriculture).
CONGRESSIONAL RECORD, Vol. 136 (1990):
Oct. 2, considered and passed House.
Oct. 5, considered and passed Senate.

Public Law 101-446
101st Congress

An Act

To improve the information available to emergency response personnel in the field, and for other purposes.

Oct. 22, 1990
[H.R. 4522]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Firefighters' Safety Study Act.
Intergovernmental relations.
15 USC 2223a note.

SECTION 1. SHORT TITLE.

This Act may be cited as the "Firefighters' Safety Study Act".

SEC. 2. REVIEW.

15 USC 2223a.

The Administrator of the United States Fire Administration (hereafter in this Act referred to as the "Administrator") shall conduct a review of existing response information used by emergency response personnel at the State and local levels to evaluate its accuracy and consistency, and to determine whether it is properly expressed. Such information should clearly communicate to emergency response personnel the probable hazards which they must contend with in an emergency situation involving hazardous materials, and the appropriate response to those hazards.

SEC. 3. WORKING GROUP.

15 USC 2223b.

For the purpose of carrying out section 2, the Administrator shall establish a working group which shall, at a minimum, consist of—

(1) program officials from each of—

(A) the Environmental Protection Agency;

(B) the National Oceanic and Atmospheric Administration;

(C) the Department of Transportation;

(D) the Occupational Safety and Health Administration; and

(E) the Bureau of Alcohol, Tobacco, and Firearms,

who develop and disseminate hazardous materials identification and response data, and who collect, collate, analyze, and disseminate hazardous materials incident data;

(2) State and local operational officials with emergency response or relevant regulatory responsibilities; and

(3) representatives of companies engaged in the manufacture and processing of chemicals.

SEC. 4. REPORT AND RECOMMENDATIONS.

15 USC 2223c.

The working group established under section 3 shall, within 1 year after the date of enactment of this Act, submit a report to the Administrator and to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate presenting the results of the review carried out under this Act, along with recommendations to ensure that response information disseminated to emergency response personnel is appropriate for operational personnel at the local level.

15 USC 2223d.

SEC. 5. ANNUAL REVISION OF RECOMMENDATIONS.

After the submission of the report cited in section 4, the working group established under section 3 shall meet as needed, but at least once every 12 months, to review and recommend changes and additions to the report cited in section 4, that are necessary and appropriate for operational personnel at the local level.

15 USC 2223e.

SEC. 6. DEFINITION.

As used in this Act, the term "emergency response personnel" means personnel responsible for mitigation activities in a medical emergency, fire emergency, hazardous material emergency, or natural disaster.

Approved October 22, 1990.

LEGISLATIVE HISTORY—H.R. 4522:

HOUSE REPORTS: No. 101-473 (Comm. on Science, Space, and Technology).
SENATE REPORTS: No. 101-452 (Comm. on Commerce, Science, and Transportation).
CONGRESSIONAL RECORD, Vol. 136 (1990):
May 8, considered and passed House.
Oct. 5, considered and passed Senate.

Public Law 101-580
101st Congress

An Act

To amend title 35, United States Code, with respect to the use of inventions in outer space.

Nov. 15, 1990
[S. 459]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. INVENTIONS IN OUTER SPACE.

(a) IN GENERAL.—Chapter 10 of title 35, United States Code, is amended by adding at the end the following:

"§ 105. Inventions in outer space

"(a) Any invention made, used or sold in outer space on a space object or component thereof under the jurisdiction or control of the United States shall be considered to be made, used or sold within the United States for the purposes of this title, except with respect to any space object or component thereof that is specifically identified and otherwise provided for by an international agreement to which the United States is a party, or with respect to any space object or component thereof that is carried on the registry of a foreign state in accordance with the Convention on Registration of Objects Launched into Outer Space.

"(b) Any invention made, used or sold in outer space on a space object or component thereof that is carried on the registry of a foreign state in accordance with the Convention on Registration of Objects Launched into Outer Space, shall be considered to be made, used or sold within the United States for the purposes of this title if specifically so agreed in an international agreement between the United States and the state of registry.".

(b) TABLE OF CONTENTS.—The table of sections of chapter 10 of title 35, United States Code, is amended by adding at the end the following:

"105. Inventions in outer space.".

SEC. 2. SPECIAL RULES.

35 USC 105 note.

(a) EFFECTIVE DATE.—Subject to subsections (b), (c), and (d) of this section, the amendments made by the first section of this Act shall apply to all United States patents granted before, on, or after the date of enactment of this Act, and to all applications for United States patents pending on or filed on or after such date of enactment.

(b) FINAL DECISIONS.—The amendments made by the first section of this Act shall not affect any final decision made by a court or the Patent and Trademark Office before the date of enactment of this Act with respect to a patent or an application for a patent, if no appeal from such decision is pending and the time for filing an appeal has expired.

(c) PENDING CASES.—The amendments made by the first section of this Act shall not affect the right of any party in any case pending in a court on the date of enactment of this Act to have the party's

rights determined on the basis of the substantive law in effect before such date of enactment.

(d) NON-APPLICABILITY.—The amendments made by the first section of this Act shall not apply to any process, machine, article of manufacture, or composition of matter, an embodiment of which was launched prior to the date of enactment of this Act.

Approved November 15, 1990.

LEGISLATIVE HISTORY—S. 459 (H.R. 2946):

SENATE REPORTS: No. 101-266 (Comm. on the Judiciary).
CONGRESSIONAL RECORD, Vol. 136 (1990):
May 1, considered and passed Senate.
Oct. 26, H.R. 2946 considered and passed House; proceedings vacated and S. 459 passed in lieu.
WEEKLY COMPILATION OF PRESIDENTIAL DOCUMENTS, Vol. 26 (1990):
Nov. 15, Presidential statement.

Public Law 101-549
101st Congress

An Act

To amend the Clean Air Act to provide for attainment and maintenance of health protective national ambient air quality standards, and for other purposes.

Nov. 15, 1990
[S. 1630]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Air pollution control.

TITLE I—PROVISIONS FOR ATTAINMENT AND MAINTENANCE OF NATIONAL AMBIENT AIR QUALITY STANDARDS

Sec. 101. General planning requirements.
Sec. 102. General provisions for nonattainment areas.
Sec. 103. Additional provisions for ozone nonattainment areas.
Sec. 104. Additional provisions for carbon monoxide nonattainment areas.
Sec. 105. Additional provisions for particulate matter (PM-10) nonattainment areas.
Sec. 106. Additional provisions for areas designated nonattainment for sulfur oxides, nitrogen dioxide, and lead.
Sec. 107. Provisions related to Indian tribes.
Sec. 108. Miscellaneous provisions.
Sec. 109. Interstate pollution.
Sec. 110. Conforming amendments.
Sec. 111. Transportation system impacts on clean air.

SEC. 101. GENERAL PLANNING REQUIREMENTS.

Intergovernmental relations.

(a) AREA DESIGNATIONS.—Section 107(d) of the Clean Air Act (42 U.S.C. 7407(d)) is amended to read as follows:

"(d) DESIGNATIONS.—

"(1) DESIGNATIONS GENERALLY.—

"(A) SUBMISSION BY GOVERNORS OF INITIAL DESIGNATIONS FOLLOWING PROMULGATION OF NEW OR REVISED STANDARDS.—By such date as the Administrator may reasonably require, but not later than 1 year after promulgation of a new or revised national ambient air quality standard for any pollutant under section 109, the Governor of each State shall (and at any other time the Governor of a State deems appropriate the Governor may) submit to the Administrator a list of all areas (or portions thereof) in the State, designating as—

"(i) nonattainment, any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant,

"(ii) attainment, any area (other than an area identified in clause (i)) that meets the national primary or secondary ambient air quality standard for the pollutant, or

"(iii) unclassifiable, any area that cannot be classified on the basis of available information as meeting or not

meeting the national primary or secondary ambient air quality standard for the pollutant.

The Administrator may not require the Governor to submit the required list sooner than 120 days after promulgating a new or revised national ambient air quality standard.

"(B) PROMULGATION BY EPA OF DESIGNATIONS.—(i) Upon promulgation or revision of a national ambient air quality standard, the Administrator shall promulgate the designations of all areas (or portions thereof) submitted under subparagraph (A) as expeditiously as practicable, but in no case later than 2 years from the date of promulgation of the new or revised national ambient air quality standard. Such period may be extended for up to one year in the event the Administrator has insufficient information to promulgate the designations.

"(ii) In making the promulgations required under clause (i), the Administrator may make such modifications as the Administrator deems necessary to the designations of the areas (or portions thereof) submitted under subparagraph (A) (including to the boundaries of such areas or portions thereof). Whenever the Administrator intends to make a modification, the Administrator shall notify the State and provide such State with an opportunity to demonstrate why any proposed modification is inappropriate. The Administrator shall give such notification no later than 120 days before the date the Administrator promulgates the designation, including any modification thereto. If the Governor fails to submit the list in whole or in part, as required under subparagraph (A), the Administrator shall promulgate the designation that the Administrator deems appropriate for any area (or portion thereof) not designated by the State.

"(iii) If the Governor of any State, on the Governor's own motion, under subparagraph (A), submits a list of areas (or portions thereof) in the State designated as nonattainment, attainment, or unclassifiable, the Administrator shall act on such designations in accordance with the procedures under paragraph (3) (relating to redesignation).

"(iv) A designation for an area (or portion thereof) made pursuant to this subsection shall remain in effect until the area (or portion thereof) is redesignated pursuant to paragraph (3) or (4).

"(C) DESIGNATIONS BY OPERATION OF LAW.—(i) Any area designated with respect to any air pollutant under the provisions of paragraph (1) (A), (B), or (C) of this subsection (as in effect immediately before the date of the enactment of the Clean Air Act Amendments of 1990) is designated, by operation of law, as a nonattainment area for such pollutant within the meaning of subparagraph (A)(i).

"(ii) Any area designated with respect to any air pollutant under the provisions of paragraph (1)(E) (as in effect immediately before the date of the enactment of the Clean Air Act Amendments of 1990) is designated by operation of law, as an attainment area for such pollutant within the meaning of subparagraph (A)(ii).

"(iii) Any area designated with respect to any air pollutant under the provisions of paragraph (1)(D) (as in effect

immediately before the date of the enactment of the Clean Air Act Amendments of 1990) is designated, by operation of law, as an unclassifiable area for such pollutant within the meaning of subparagraph (A)(iii).

"(2) PUBLICATION OF DESIGNATIONS AND REDESIGNATIONS.—(A) The Administrator shall publish a notice in the Federal Register promulgating any designation under paragraph (1) or (5), or announcing any designation under paragraph (4), or promulgating any redesignation under paragraph (3). Federal Register, publication.

"(B) Promulgation or announcement of a designation under paragraph (1), (4) or (5) shall not be subject to the provisions of sections 553 through 557 of title 5 of the United States Code (relating to notice and comment), except nothing herein shall be construed as precluding such public notice and comment whenever possible.

"(3) REDESIGNATION.—(A) Subject to the requirements of subparagraph (E), and on the basis of air quality data, planning and control considerations, or any other air quality-related considerations the Administrator deems appropriate, the Administrator may at any time notify the Governor of any State that available information indicates that the designation of any area or portion of an area within the State or interstate area should be revised. In issuing such notification, which shall be public, to the Governor, the Administrator shall provide such information as the Administrator may have available explaining the basis for the notice.

"(B) No later than 120 days after receiving a notification under subparagraph (A), the Governor shall submit to the Administrator such redesignation, if any, of the appropriate area (or areas) or portion thereof within the State or interstate area, as the Governor considers appropriate.

"(C) No later than 120 days after the date described in subparagraph (B) (or paragraph (1)(B)(iii)), the Administrator shall promulgate the redesignation, if any, of the area or portion thereof, submitted by the Governor in accordance with subparagraph (B), making such modifications as the Administrator may deem necessary, in the same manner and under the same procedure as is applicable under clause (ii) of paragraph (1)(B), except that the phrase '60 days' shall be substituted for the phrase '120 days' in that clause. If the Governor does not submit, in accordance with subparagraph (B), a redesignation for an area (or portion thereof) identified by the Administrator under subparagraph (A), the Administrator shall promulgate such redesignation, if any, that the Administrator deems appropriate.

"(D) The Governor of any State may, on the Governor's own motion, submit to the Administrator a revised designation of any area or portion thereof within the State. Within 18 months of receipt of a complete State redesignation submittal, the Administrator shall approve or deny such redesignation. The submission of a redesignation by a Governor shall not affect the effectiveness or enforceability of the applicable implementation plan for the State.

"(E) The Administrator may not promulgate a redesignation of a nonattainment area (or portion thereof) to attainment unless—

"(i) the Administrator determines that the area has attained the national ambient air quality standard;

"(ii) the Administrator has fully approved the applicable implementation plan for the area under section 110(k);

"(iii) the Administrator determines that the improvement in air quality is due to permanent and enforceable reductions in emissions resulting from implementation of the applicable implementation plan and applicable Federal air pollutant control regulations and other permanent and enforceable reductions;

"(iv) the Administrator has fully approved a maintenance plan for the area as meeting the requirements of section 175A; and

"(v) the State containing such area has met all requirements applicable to the area under section 110 and part D.

"(F) The Administrator shall not promulgate any redesignation of any area (or portion thereof) from nonattainment to unclassifiable.

"(4) NONATTAINMENT DESIGNATIONS FOR OZONE, CARBON MONOXIDE AND PARTICULATE MATTER (PM-10).—

"(A) OZONE AND CARBON MONOXIDE.—(i) Within 120 days after the date of the enactment of the Clean Air Act Amendments of 1990, each Governor of each State shall submit to the Administrator a list that designates, affirms or reaffirms the designation of, or redesignates (as the case may be), all areas (or portions thereof) of the Governor's State as attainment, nonattainment, or unclassifiable with respect to the national ambient air quality standards for ozone and carbon monoxide.

"(ii) No later than 120 days after the date the Governor is required to submit the list of areas (or portions thereof) required under clause (i) of this subparagraph, the Administrator shall promulgate such designations, making such modifications as the Administrator may deem necessary, in the same manner, and under the same procedure, as is applicable under clause (ii) of paragraph (1)(B), except that the phrase '60 days' shall be substituted for the phrase '120 days' in that clause. If the Governor does not submit, in accordance with clause (i) of this subparagraph, a designation for an area (or portion thereof), the Administrator shall promulgate the designation that the Administrator deems appropriate.

"(iii) No nonattainment area may be redesignated as an attainment area under this subparagraph.

"(iv) Notwithstanding paragraph (1)(C)(ii) of this subsection, if an ozone or carbon monoxide nonattainment area located within a metropolitan statistical area or consolidated metropolitan statistical area (as established by the Bureau of the Census) is classified under part D of this title as a Serious, Severe, or Extreme Area, the boundaries of such area are hereby revised (on the date 45 days after such classification) by operation of law to include the entire metropolitan statistical area or consolidated metropolitan statistical area, as the case may be, unless within such 45-day period the Governor (in consultation with State and local air pollution control agencies) notifies the Administrator that additional time is necessary to evaluate the

application of clause (v). Whenever a Governor has submitted such a notice to the Administrator, such boundary revision shall occur on the later of the date 8 months after such classification or 14 months after the date of the enactment of the Clean Air Act Amendments of 1990 unless the Governor makes the finding referred to in clause (v), and the Administrator concurs in such finding, within such period. Except as otherwise provided in this paragraph, a boundary revision under this clause or clause (v) shall apply for purposes of any State implementation plan revision required to be submitted after the date of the enactment of the Clean Air Act Amendments of 1990.

"(v) Whenever the Governor of a State has submitted a notice under clause (iv), the Governor, in consultation with State and local air pollution control agencies, shall undertake a study to evaluate whether the entire metropolitan statistical area or consolidated metropolitan statistical area should be included within the nonattainment area. Whenever a Governor finds and demonstrates to the satisfaction of the Administrator, and the Administrator concurs in such finding, that with respect to a portion of a metropolitan statistical area or consolidated metropolitan statistical area, sources in the portion do not contribute significantly to violation of the national ambient air quality standard, the Administrator shall approve the Governor's request to exclude such portion from the nonattainment area. In making such finding, the Governor and the Administrator shall consider factors such as population density, traffic congestion, commercial development, industrial development, meteorological conditions, and pollution transport.

"(B) PM-10 DESIGNATIONS.—By operation of law, until redesignation by the Administrator pursuant to paragraph (3)—

"(i) each area identified in 52 Federal Register 29383 (Aug. 7, 1987) as a Group I area (except to the extent that such identification was modified by the Administrator before the date of the enactment of the Clean Air Act Amendments of 1990) is designated nonattainment for PM-10;

"(ii) any area containing a site for which air quality monitoring data show a violation of the national ambient air quality standard for PM-10 before January 1, 1989 (as determined under part 50, appendix K of title 40 of the Code of Federal Regulations) is hereby designated nonattainment for PM-10; and

"(iii) each area not described in clause (i) or (ii) is hereby designated unclassifiable for PM-10.

Any designation for particulate matter (measured in terms of total suspended particulates) that the Administrator promulgated pursuant to this subsection (as in effect immediately before the date of the enactment of the Clean Air Act Amendments of 1990) shall remain in effect for purposes of implementing the maximum allowable increases in concentrations of particulate matter (measured in terms of total suspended particulates) pursuant to section 163(b), until the Administrator determines that such designation is no longer necessary for that purpose.

"(5) DESIGNATIONS FOR LEAD.—The Administrator may, in the Administrator's discretion at any time the Administrator deems appropriate, require a State to designate areas (or portions thereof) with respect to the national ambient air quality standard for lead in effect as of the date of the enactment of the Clean Air Act Amendments of 1990, in accordance with the procedures under subparagraphs (A) and (B) of paragraph (1), except that in applying subparagraph (B)(i) of paragraph (1) the phrase '2 years from the date of promulgation of the new or revised national ambient air quality standard' shall be replaced by the phrase '1 year from the date the Administrator notifies the State of the requirement to designate areas with respect to the standard for lead'.".

(b) GENERAL REQUIREMENTS FOR IMPLEMENTATION PLANS.—Section 110(a)(2) of the Clean Air Act (42 U.S.C. 7410(a)(2)) is amended to read as follows:

"(2) Each implementation plan submitted by a State under this Act shall be adopted by the State after reasonable notice and public hearing. Each such plan shall—

"(A) include enforceable emission limitations and other control measures, means, or techniques (including economic incentives such as fees, marketable permits, and auctions of emissions rights), as well as schedules and timetables for compliance, as may be necessary or appropriate to meet the applicable requirements of this Act;

"(B) provide for establishment and operation of appropriate devices, methods, systems, and procedures necessary to—

"(i) monitor, compile, and analyze data on ambient air quality, and

"(ii) upon request, make such data available to the Administrator;

"(C) include a program to provide for the enforcement of the measures described in subparagraph (A), and regulation of the modification and construction of any stationary source within the areas covered by the plan as necessary to assure that national ambient air quality standards are achieved, including a permit program as required in parts C and D;

"(D) contain adequate provisions—

"(i) prohibiting, consistent with the provisions of this title, any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will—

"(I) contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any such national primary or secondary ambient air quality standard, or

"(II) interfere with measures required to be included in the applicable implementation plan for any other State under part C to prevent significant deterioration of air quality or to protect visibility,

"(ii) insuring compliance with the applicable requirements of sections 126 and 115 (relating to interstate and international pollution abatement);

"(E) provide (i) necessary assurances that the State (or, except where the Administrator deems inappropriate, the general purpose local government or governments, or a regional agency designated by the State or general purpose local governments

for such purpose) will have adequate personnel, funding, and authority under State (and, as appropriate, local) law to carry out such implementation plan (and is not prohibited by any provision of Federal or State law from carrying out such implementation plan or portion thereof), (ii) requirements that the State comply with the requirements respecting State boards under section 128, and (iii) necessary assurances that, where the State has relied on a local or regional government, agency, or instrumentality for the implementation of any plan provision, the State has responsibility for ensuring adequate implementation of such plan provision;

"(F) require, as may be prescribed by the Administrator—

"(i) the installation, maintenance, and replacement of equipment, and the implementation of other necessary steps, by owners or operators of stationary sources to monitor emissions from such sources,

"(ii) periodic reports on the nature and amounts of emissions and emissions-related data from such sources, and Reports.

"(iii) correlation of such reports by the State agency with any emission limitations or standards established pursuant to this Act, which reports shall be available at reasonable times for public inspection; Public information.

"(G) provide for authority comparable to that in section 303 and adequate contingency plans to implement such authority;

"(H) provide for revision of such plan—

"(i) from time to time as may be necessary to take account of revisions of such national primary or secondary ambient air quality standard or the availability of improved or more expeditious methods of attaining such standard, and

"(ii) except as provided in paragraph (3)(C), whenever the Administrator finds on the basis of information available to the Administrator that the plan is substantially inadequate to attain the national ambient air quality standard which it implements or to otherwise comply with any additional requirements established under this Act;

"(I) in the case of a plan or plan revision for an area designated as a nonattainment area, meet the applicable requirements of part D (relating to nonattainment areas);

"(J) meet the applicable requirements of section 121 (relating to consultation), section 127 (relating to public notification), and part C (relating to prevention of significant deterioration of air quality and visibility protection);

"(K) provide for—

"(i) the performance of such air quality modeling as the Administrator may prescribe for the purpose of predicting the effect on ambient air quality of any emissions of any air pollutant for which the Administrator has established a national ambient air quality standard, and

"(ii) the submission, upon request, of data related to such air quality modeling to the Administrator;

"(L) require the owner or operator of each major stationary source to pay to the permitting authority, as a condition of any permit required under this Act, a fee sufficient to cover—

"(i) the reasonable costs of reviewing and acting upon any application for such a permit, and

"(ii) if the owner or operator receives a permit for such source, the reasonable costs of implementing and enforcing the terms and conditions of any such permit (not including any court costs or other costs associated with any enforcement action),

until such fee requirement is superseded with respect to such sources by the Administrator's approval of a fee program under title V; and

"(M) provide for consultation and participation by local political subdivisions affected by the plan.".

(c) ADDITIONAL PROVISIONS.—Section 110 of the Clean Air Act (42 U.S.C. 7410) is amended by adding the following at the end thereof:

"(k) ENVIRONMENTAL PROTECTION AGENCY ACTION ON PLAN SUBMISSIONS.—

"(1) COMPLETENESS OF PLAN SUBMISSIONS.—

"(A) COMPLETENESS CRITERIA.—Within 9 months after the date of the enactment of the Clean Air Act Amendments of 1990, the Administrator shall promulgate minimum criteria that any plan submission must meet before the Administrator is required to act on such submission under this subsection. The criteria shall be limited to the information necessary to enable the Administrator to determine whether the plan submission complies with the provisions of this Act.

"(B) COMPLETENESS FINDING.—Within 60 days of the Administrator's receipt of a plan or plan revision, but no later than 6 months after the date, if any, by which a State is required to submit the plan or revision, the Administrator shall determine whether the minimum criteria established pursuant to subparagraph (A) have been met. Any plan or plan revision that a State submits to the Administrator, and that has not been determined by the Administrator (by the date 6 months after receipt of the submission) to have failed to meet the minimum criteria established pursuant to subparagraph (A), shall on that date be deemed by operation of law to meet such minimum criteria.

"(C) EFFECT OF FINDING OF INCOMPLETENESS.—Where the Administrator determines that a plan submission (or part thereof) does not meet the minimum criteria established pursuant to subparagraph (A), the State shall be treated as not having made the submission (or, in the Administrator's discretion, part thereof).

"(2) DEADLINE FOR ACTION.—Within 12 months of a determination by the Administrator (or a determination deemed by operation of law) under paragraph (1) that a State has submitted a plan or plan revision (or, in the Administrator's discretion, part thereof) that meets the minimum criteria established pursuant to paragraph (1), if applicable (or, if those criteria are not applicable, within 12 months of submission of the plan or revision), the Administrator shall act on the submission in accordance with paragraph (3).

"(3) FULL AND PARTIAL APPROVAL AND DISAPPROVAL.—In the case of any submittal on which the Administrator is required to act under paragraph (2), the Administrator shall approve such submittal as a whole if it meets all of the applicable requirements of this Act. If a portion of the plan revision meets all the applicable requirements of this Act, the Administrator may

approve the plan revision in part and disapprove the plan revision in part. The plan revision shall not be treated as meeting the requirements of this Act until the Administrator approves the entire plan revision as complying with the applicable requirements of this Act.

"(4) CONDITIONAL APPROVAL.—The Administrator may approve a plan revision based on a commitment of the State to adopt specific enforceable measures by a date certain, but not later than 1 year after the date of approval of the plan revision. Any such conditional approval shall be treated as a disapproval if the State fails to comply with such commitment.

"(5) CALLS FOR PLAN REVISIONS.—Whenever the Administrator finds that the applicable implementation plan for any area is substantially inadequate to attain or maintain the relevant national ambient air quality standard, to mitigate adequately the interstate pollutant transport described in section 176A or section 184, or to otherwise comply with any requirement of this Act, the Administrator shall require the State to revise the plan as necessary to correct such inadequacies. The Administrator shall notify the State of the inadequacies, and may establish reasonable deadlines (not to exceed 18 months after the date of such notice) for the submission of such plan revisions. Such findings and notice shall be public. Any finding under this paragraph shall, to the extent the Administrator deems appropriate, subject the State to the requirements of this Act to which the State was subject when it developed and submitted the plan for which such finding was made, except that the Administrator may adjust any dates applicable under such requirements as appropriate (except that the Administrator may not adjust any attainment date prescribed under part D, unless such date has elapsed). Public information.

"(6) CORRECTIONS.—Whenever the Administrator determines that the Administrator's action approving, disapproving, or promulgating any plan or plan revision (or part thereof), area designation, redesignation, classification, or reclassification was in error, the Administrator may in the same manner as the approval, disapproval, or promulgation revise such action as appropriate without requiring any further submission from the State. Such determination and the basis thereof shall be provided to the State and public. Public information.

"(l) PLAN REVISIONS.—Each revision to an implementation plan submitted by a State under this Act shall be adopted by such State after reasonable notice and public hearing. The Administrator shall not approve a revision of a plan if the revision would interfere with any applicable requirement concerning attainment and reasonable further progress (as defined in section 171), or any other applicable requirement of this Act.

"(m) SANCTIONS.—The Administrator may apply any of the sanctions listed in section 179(b) at any time (or at any time after) the Administrator makes a finding, disapproval, or determination under paragraphs (1) through (4), respectively, of section 179(a) in relation to any plan or plan item (as that term is defined by the Administrator) required under this Act, with respect to any portion of the State the Administrator determines reasonable and appropriate, for the purpose of ensuring that the requirements of this Act relating to such plan or plan item are met. The Administrator shall, by rule, establish criteria for exercising his authority under the previous

sentence with respect to any deficiency referred to in section 179(a) to ensure that, during the 24-month period following the finding, disapproval, or determination referred to in section 179(a), such sanctions are not applied on a statewide basis where one or more political subdivisions covered by the applicable implementation plan are principally responsible for such deficiency.

"(n) SAVINGS CLAUSES.—

"(1) EXISTING PLAN PROVISIONS.—Any provision of any applicable implementation plan that was approved or promulgated by the Administrator pursuant to this section as in effect before the date of the enactment of the Clean Air Act Amendments of 1990 shall remain in effect as part of such applicable implementation plan, except to the extent that a revision to such provision is approved or promulgated by the Administrator pursuant to this Act.

"(2) ATTAINMENT DATES.—For any area not designated nonattainment, any plan or plan revision submitted or required to be submitted by a State—

"(A) in response to the promulgation or revision of a national primary ambient air quality standard in effect on the date of the enactment of the Clean Air Act Amendments of 1990, or

"(B) in response to a finding of substantial inadequacy under subsection (a)(2) (as in effect immediately before the date of the enactment of the Clean Air Act Amendments of 1990),

shall provide for attainment of the national primary ambient air quality standards within 3 years of the date of the enactment of the Clean Air Act Amendments of 1990 or within 5 years of issuance of such finding of substantial inadequacy, whichever is later.

"(3) RETENTION OF CONSTRUCTION MORATORIUM IN CERTAIN AREAS.—In the case of an area to which, immediately before the date of the enactment of the Clean Air Act Amendments of 1990, the prohibition on construction or modification of major stationary sources prescribed in subsection (a)(2)(I) (as in effect immediately before the date of the enactment of the Clean Air Act Amendments of 1990) applied by virtue of a finding of the Administrator that the State containing such area had not submitted an implementation plan meeting the requirements of section 172(b)(6) (relating to establishment of a permit program) (as in effect immediately before the date of enactment of the Clean Air Act Amendments of 1990) or 172(a)(1) (to the extent such requirements relate to provision for attainment of the primary national ambient air quality standard for sulfur oxides by December 31, 1982) as in effect immediately before the date of the enactment of the Clean Air Act Amendments of 1990, no major stationary source of the relevant air pollutant or pollutants shall be constructed or modified in such area until the Administrator finds that the plan for such area meets the applicable requirements of section 172(c)(5) (relating to permit programs) or subpart 5 of part D (relating to attainment of the primary national ambient air quality standard for sulfur dioxide), respectively.".

(d) CONFORMING AMENDMENTS.—Section 110 of the Clean Air Act (42 U.S.C. 7410) is amended as follows:

(1) Strike out subparagraph (A) and subparagraph (D) of section 110(a)(3).

(2) Strike out paragraph (4) of section 110(a).

(3) In subsection (c)—

(A) strike out subparagraph (A) of paragraph (2);

(B) strike out paragraph (2)(C);

(C) strike out paragraph (4); and

(D) in paragraph (5)(B) strike out "(including the written evidence required by part D),".

(4) Strike subsection (d) and in section 302 (42 U.S.C. 7602) add the following new subsection after subsection (p):

"(q) For purposes of this Act, the term 'applicable implementation plan' means the portion (or portions) of the implementation plan, or most recent revision thereof, which has been approved under section 110, or promulgated under section 110(c), or promulgated or approved pursuant to regulations promulgated under section 301(d) and which implements the relevant requirements of this Act.".

(5) strike out subsection (e).

(6) In subsection (g), strike "the required four month period" and insert "12 months of submission of the proposed plan revision".

(7) In subsection (h)—

(A) strike "one year after the date of enactment of the Clean Air Act Amendments of 1977 and annually thereafter" and insert "5 years after the date of the enactment of the Clean Air Act Amendments of 1990, and every 3 years thereafter"; and

(B) strike the second sentence of paragraph (1).

(8) In subsection (a)(1) strike "nine months" each place it appears and insert "3 years (or such shorter period as the Administrator may prescribe)".

(e) FEDERAL FACILITIES.—The second sentence of section 118(a) of the Clean Air Act (42 U.S.C. 7418(a)) is amended to read as follows: "The preceding sentence shall apply (A) to any requirement whether substantive or procedural (including any recordkeeping or reporting requirement, any requirement respecting permits and any other requirement whatsoever), (B) to any requirement to pay a fee or charge imposed by any State or local agency to defray the costs of its air pollution regulatory program, (C) to the exercise of any Federal, State, or local administrative authority, and (D) to any process and sanction, whether enforced in Federal, State, or local courts, or in any other manner.". Reporting and recordkeeping requirements.

(f) CONFORMITY REQUIREMENTS.—Section 176(c) of the Clean Air Act (42 U.S.C. 7506(c)) is amended by striking "(1)", "(2)", "(3)" and "(4)" where they appear, by inserting "(1)" after "(c)", striking "a plan" each place it appears and inserting in lieu thereof "an implementation plan" each place it appears and by adding the following at the end thereof: "Conformity to an implementation plan means—

"(A) conformity to an implementation plan's purpose of eliminating or reducing the severity and number of violations of the national ambient air quality standards and achieving expeditious attainment of such standards; and

"(B) that such activities will not—

"(i) cause or contribute to any new violation of any standard in any area;

"(ii) increase the frequency or severity of any existing violation of any standard in any area; or

"(iii) delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.

The determination of conformity shall be based on the most recent estimates of emissions, and such estimates shall be determined from the most recent population, employment, travel and congestion estimates as determined by the metropolitan planning organization or other agency authorized to make such estimates.

Transportation. "(2) Any transportation plan or program developed pursuant to title 23, United States Code, or the Urban Mass Transportation Act shall implement the transportation provisions of any applicable implementation plan approved under this Act applicable to all or part of the area covered by such transportation plan or program. No Federal agency may approve, accept or fund any transportation plan, program or project unless such plan, program or project has been found to conform to any applicable implementation plan in effect under this Act. In particular—

"(A) no transportation plan or transportation improvement program may be adopted by a metropolitan planning organization designated under title 23, United States Code, or the Urban Mass Transportation Act, or be found to be in conformity by a metropolitan planning organization until a final determination has been made that emissions expected from implementation of such plans and programs are consistent with estimates of emissions from motor vehicles and necessary emissions reductions contained in the applicable implementation plan, and that the plan or program will conform to the requirements of paragraph (1)(B);

"(B) no metropolitan planning organization or other recipient of funds under title 23, United States Code, or the Urban Mass Transportation Act shall adopt or approve a transportation improvement program of projects until it determines that such program provides for timely implementation of transportation control measures consistent with schedules included in the applicable implementation plan;

"(C) a transportation project may be adopted or approved by a metropolitan planning organization or any recipient of funds designated under title 23, United States Code, or the Urban Mass Transportation Act, or found in conformity by a metropolitan planning organization or approved, accepted, or funded by the Department of Transportation only if it meets either the requirements of subparagraph (D) or the following requirements—

"(i) such a project comes from a conforming plan and program;

"(ii) the design concept and scope of such project have not changed significantly since the conformity finding regarding the plan and program from which the project derived; and

"(iii) the design concept and scope of such project at the time of the conformity determination for the program was adequate to determine emissions.

"(D) Any project not referred to in subparagraph (C) shall be treated as conforming to the applicable implementation plan only if it is demonstrated that the projected emissions from such

project, when considered together with emissions projected for the conforming transportation plans and programs within the nonattainment area, do not cause such plans and programs to exceed the emission reduction projections and schedules assigned to such plans and programs in the applicable implementation plan.

"(3) Until such time as the implementation plan revision referred to in paragraph (4)(C) is approved, conformity of such plans, programs, and projects will be demonstrated if— Transportation.

"(A) the transportation plans and programs—

"(i) are consistent with the most recent estimates of mobile source emissions;

"(ii) provide for the expeditious implementation of transportation control measures in the applicable implementation plan; and

"(iii) with respect to ozone and carbon monoxide nonattainment areas, contribute to annual emissions reductions consistent with sections 182(b)(1) and 187(a)(7); and

"(B) the transportation projects—

"(i) come from a conforming transportation plan and program as defined in subparagraph (A) or for 12 months after the date of the enactment of the Clean Air Act Amendments of 1990, from a transportation program found to conform within 3 years prior to such date of enactment; and

"(ii) in carbon monoxide nonattainment areas, eliminate or reduce the severity and number of violations of the carbon monoxide standards in the area substantially affected by the project.

With regard to subparagraph (B)(ii), such determination may be made as part of either the conformity determination for the transportation program or for the individual project taken as a whole during the environmental review phase of project development.

"(4)(A) No later than one year after the date of enactment of the Clean Air Act Amendments of 1990, the Administrator shall promulgate criteria and procedures for determining conformity (except in the case of transportation plans, programs, and projects) of, and for keeping the Administrator informed about, the activities referred to in paragraph (1). No later than one year after such date of enactment, the Administrator, with the concurrence of the Secretary of Transportation, shall promulgate criteria and procedures for demonstrating and assuring conformity in the case of transportation plans, programs, and projects. A suit may be brought against the Administrator and the Secretary of Transportation under section 304 to compel promulgation of such criteria and procedures and the Federal district court shall have jurisdiction to order such promulgation. Transportation. Courts.

"(B) The procedures and criteria shall, at a minimum—

"(i) address the consultation procedures to be undertaken by metropolitan planning organizations and the Secretary of Transportation with State and local air quality agencies and State departments of transportation before such organizations and the Secretary make conformity determinations;

"(ii) address the appropriate frequency for making conformity determinations, but in no case shall such determinations for

transportation plans and programs be less frequent than every three years; and

"(iii) address how conformity determinations will be made with respect to maintenance plans.

"(C) Such procedures shall also include a requirement that each State shall submit to the Administrator and the Secretary of Transportation within 24 months of such date of enactment, a revision to its implementation plan that includes criteria and procedures for assessing the conformity of any plan, program, or project subject to the conformity requirements of this subsection.".

SEC. 102. GENERAL PROVISIONS FOR NONATTAINMENT AREAS.

(a) DEFINITIONS.—(1) Part D of title I of the Clean Air Act is amended by inserting immediately after "PART D—PLAN REQUIREMENTS FOR NONATTAINMENT AREAS" the following:

"Subpart 1—Nonattainment Areas in General

"Sec. 171. Definitions.
"Sec. 172. Nonattainment plan provisions.
"Sec. 173. Permit requirements.
"Sec. 174. Planning procedures.
"Sec. 175. Environmental Protection Agency grants.
"Sec. 176. Limitations on certain Federal assistance.
"Sec. 177. New motor vehicle emission standards in nonattainment areas.
"Sec. 178. Guidance documents.".

(2) Section 171 of the Clean Air Act (42 U.S.C. 7501) is amended as follows:

(A) In the introductory language, strike out "and section 110(a)(2)(I)".

(B) Amend paragraph (1) to read as follows:

"(1) REASONABLE FURTHER PROGRESS.—The term 'reasonable further progress' means such annual incremental reductions in emissions of the relevant air pollutant as are required by this part or may reasonably be required by the Administrator for the purpose of ensuring attainment of the applicable national ambient air quality standard by the applicable date.".

(C) Amend paragraph (2) to read as follows:

"(2) NONATTAINMENT AREA.—The term 'nonattainment area' means, for any air pollutant, an area which is designated 'nonattainment' with respect to that pollutant within the meaning of section 107(d).".

(b) NONATTAINMENT PLAN PROVISIONS IN GENERAL.—Section 172 (42 U.S.C. 7502) of the Clean Air Act is amended to read as follows:

"SEC. 172. NONATTAINMENT PLAN PROVISIONS IN GENERAL.

"(a) CLASSIFICATIONS AND ATTAINMENT DATES.—

"(1) CLASSIFICATIONS.—(A) On or after the date the Administrator promulgates the designation of an area as a nonattainment area pursuant to section 107(d) with respect to any national ambient air quality standard (or any revised standard, including a revision of any standard in effect on the date of the enactment of the Clean Air Act Amendments of 1990), the Administrator may classify the area for the purpose of applying an attainment date pursuant to paragraph (2), and for other purposes. In determining the appropriate classification, if any, for a nonattainment area, the Administrator may consider such factors as the severity of nonattainment in such area and the availability and feasibility of the pollution control measures

that the Administrator believes may be necessary to provide for attainment of such standard in such area.

"(B) The Administrator shall publish a notice in the Federal Register announcing each classification under subparagraph (A), except the Administrator shall provide an opportunity for at least 30 days for written comment. Such classification shall not be subject to the provisions of sections 553 through 557 of title 5 of the United States Code (concerning notice and comment) and shall not be subject to judicial review until the Administrator takes final action under subsection (k) or (l) of section 110 (concerning action on plan submissions) or section 179 (concerning sanctions) with respect to any plan submissions required by virtue of such classification. Federal Register, publication.

"(C) This paragraph shall not apply with respect to nonattainment areas for which classifications are specifically provided under other provisions of this part.

"(2) ATTAINMENT DATES FOR NONATTAINMENT AREAS.—(A) The attainment date for an area designated nonattainment with respect to a national primary ambient air quality standard shall be the date by which attainment can be achieved as expeditiously as practicable, but no later than 5 years from the date such area was designated nonattainment under section 107(d), except that the Administrator may extend the attainment date to the extent the Administrator determines appropriate, for a period no greater than 10 years from the date of designation as nonattainment, considering the severity of nonattainment and the availability and feasibility of pollution control measures.

"(B) The attainment date for an area designated nonattainment with respect to a secondary national ambient air quality standard shall be the date by which attainment can be achieved as expeditiously as practicable after the date such area was designated nonattainment under section 107(d).

"(C) Upon application by any State, the Administrator may extend for 1 additional year (hereinafter referred to as the 'Extension Year') the attainment date determined by the Administrator under subparagraph (A) or (B) if—

"(i) the State has complied with all requirements and commitments pertaining to the area in the applicable implementation plan, and

"(ii) in accordance with guidance published by the Administrator, no more than a minimal number of exceedances of the relevant national ambient air quality standard has occurred in the area in the year preceding the Extension Year.

No more than 2 one-year extensions may be issued under this subparagraph for a single nonattainment area.

"(D) This paragraph shall not apply with respect to nonattainment areas for which attainment dates are specifically provided under other provisions of this part.

"(b) SCHEDULE FOR PLAN SUBMISSIONS.—At the time the Administrator promulgates the designation of an area as nonattainment with respect to a national ambient air quality standard under section 107(d), the Administrator shall establish a schedule according to which the State containing such area shall submit a plan or plan revision (including the plan items) meeting the applicable requirements of subsection (c) and section 110(a)(2). Such schedule shall at a minimum, include a date or dates, extending no later than

3 years from the date of the nonattainment designation, for the submission of a plan or plan revision (including the plan items) meeting the applicable requirements of subsection (c) and section 110(a)(2).

"(c) NONATTAINMENT PLAN PROVISIONS.—The plan provisions (including plan items) required to be submitted under this part shall comply with each of the following:

"(1) IN GENERAL.—Such plan provisions shall provide for the implementation of all reasonably available control measures as expeditiously as practicable (including such reductions in emissions from existing sources in the area as may be obtained through the adoption, at a minimum, of reasonably available control technology) and shall provide for attainment of the national primary ambient air quality standards.

"(2) RFP.—Such plan provisions shall require reasonable further progress.

"(3) INVENTORY.—Such plan provisions shall include a comprehensive, accurate, current inventory of actual emissions from all sources of the relevant pollutant or pollutants in such area, including such periodic revisions as the Administrator may determine necessary to assure that the requirements of this part are met.

"(4) IDENTIFICATION AND QUANTIFICATION.—Such plan provisions shall expressly identify and quantify the emissions, if any, of any such pollutant or pollutants which will be allowed, in accordance with section 173(a)(1)(B), from the construction and operation of major new or modified stationary sources in each such area. The plan shall demonstrate to the satisfaction of the Administrator that the emissions quantified for this purpose will be consistent with the achievement of reasonable further progress and will not interfere with attainment of the applicable national ambient air quality standard by the applicable attainment date.

"(5) PERMITS FOR NEW AND MODIFIED MAJOR STATIONARY SOURCES.—Such plan provisions shall require permits for the construction and operation of new or modified major stationary sources anywhere in the nonattainment area, in accordance with section 173.

"(6) OTHER MEASURES.—Such plan provisions shall include enforceable emission limitations, and such other control measures, means or techniques (including economic incentives such as fees, marketable permits, and auctions of emission rights), as well as schedules and timetables for compliance, as may be necessary or appropriate to provide for attainment of such standard in such area by the applicable attainment date specified in this part.

"(7) COMPLIANCE WITH SECTION 110(a)(2).—Such plan provisions shall also meet the applicable provisions of section 110(a)(2).

"(8) EQUIVALENT TECHNIQUES.—Upon application by any State, the Administrator may allow the use of equivalent modeling, emission inventory, and planning procedures, unless the Administrator determines that the proposed techniques are, in the aggregate, less effective than the methods specified by the Administrator.

"(9) CONTINGENCY MEASURES.—Such plan shall provide for the implementation of specific measures to be undertaken if the

area fails to make reasonable further progress, or to attain the national primary ambient air quality standard by the attainment date applicable under this part. Such measures shall be included in the plan revision as contingency measures to take effect in any such case without further action by the State or the Administrator.

"(d) PLAN REVISIONS REQUIRED IN RESPONSE TO FINDING OF PLAN INADEQUACY.—Any plan revision for a nonattainment area which is required to be submitted in response to a finding by the Administrator pursuant to section 110(k)(5) (relating to calls for plan revisions) must correct the plan deficiency (or deficiencies) specified by the Administrator and meet all other applicable plan requirements of section 110 and this part. The Administrator may reasonably adjust the dates otherwise applicable under such requirements to such revision (except for attainment dates that have not yet elapsed), to the extent necessary to achieve a consistent application of such requirements. In order to facilitate submittal by the States of adequate and approvable plans consistent with the applicable requirements of this Act, the Administrator shall, as appropriate and from time to time, issue written guidelines, interpretations, and information to the States which shall be available to the public, taking into consideration any such guidelines, interpretations, or information provided before the date of the enactment of the Clean Air Act Amendments of 1990.

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"(e) FUTURE MODIFICATION OF STANDARD.—If the Administrator relaxes a national primary ambient air quality standard after the date of the enactment of the Clean Air Act Amendments of 1990, the Administrator shall, within 12 months after the relaxation, promulgate requirements applicable to all areas which have not attained that standard as of the date of such relaxation. Such requirements shall provide for controls which are not less stringent than the controls applicable to areas designated nonattainment before such relaxation.".

(c) NEW SOURCE PERMIT REQUIREMENTS.—Section 173 of the Clean Air Act (42 U.S.C. 7503) is amended as follows:

(1) Strike the center heading and "SEC. 173." and insert:

"SEC. 173. PERMIT REQUIREMENTS.".

(2) Insert "(a) IN GENERAL.—" before the first sentence.

(3) Insert the following after "(1)": "in accordance with regulations issued by the Administrator for the determination of baseline emissions in a manner consistent with the assumptions underlying the applicable implementation plan approved under section 110 and this part,".

(4) Make the following amendments in subparagraph (A) of paragraph (1):

(A) Insert "sufficient offsetting emissions reductions have been obtained, such that" immediately after the comma following "commence operation".

(B) Strike "allowed under the applicable implementation plan" and insert "(as determined in accordance with the regulations under this paragraph)".

(5) Make the following amendments in subparagraph (B) of paragraph (1):

(A) Insert "in the case of a new or modified major stationary source which is located in a zone (within the nonattainment area) identified by the Administrator, in consultation

with the Secretary of Housing and Urban Development, as a zone to which economic development should be targeted," at the beginning thereof.

(B) Strike "172(b)" and insert "172(c)".

(6) Make the following amendments in paragraph (4):

(A) Insert "the Administrator has not determined that" after "(4)".

(B) Strike "being carried out" and insert "not being adequately implemented".

(C) Replace the period at the end thereof with "; and".

(7) Add the following new paragraph after paragraph (4):

"(5) an analysis of alternative sites, sizes, production processes, and environmental control techniques for such proposed source demonstrates that benefits of the proposed source significantly outweigh the environmental and social costs imposed as a result of its location, construction, or modification.".

(8) Strike "(1)(A) shall be legally binding" in the concluding sentence of subsection (a), as redesignated by this subsection and insert "(1) shall be federally enforceable".

(9) Add a new subsection (b) to read as follows:

"(b) PROHIBITION ON USE OF OLD GROWTH ALLOWANCES.—Any growth allowance included in an applicable implementation plan to meet the requirements of section 172(b)(5) (as in effect immediately before the date of the enactment of the Clean Air Act Amendments of 1990) shall not be valid for use in any area that received or receives a notice under section 110(a)(2)(H)(ii) (as in effect immediately before the date of the enactment of the Clean Air Act Amendments of 1990) or under section 110(k)(1) that its applicable implementation plan containing such allowance is substantially inadequate.".

(10) Add the following new subsections at the end thereof:

"(c) OFFSETS.—(1) The owner or operator of a new or modified major stationary source may comply with any offset requirement in effect under this part for increased emissions of any air pollutant only by obtaining emission reductions of such air pollutant from the same source or other sources in the same nonattainment area, except that the State may allow the owner or operator of a source to obtain such emission reductions in another nonattainment area if (A) the other area has an equal or higher nonattainment classification than the area in which the source is located and (B) emissions from such other area contribute to a violation of the national ambient air quality standard in the nonattainment area in which the source is located. Such emission reductions shall be, by the time a new or modified source commences operation, in effect and enforceable and shall assure that the total tonnage of increased emissions of the air pollutant from the new or modified source shall be offset by an equal or greater reduction, as applicable, in the actual emissions of such air pollutant from the same or other sources in the area.

"(2) Emission reductions otherwise required by this Act shall not be creditable as emissions reductions for purposes of any such offset requirement. Incidental emission reductions which are not otherwise required by this Act shall be creditable as emission reductions for such purposes if such emission reductions meet the requirements of paragraph (1).

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"(d) CONTROL TECHNOLOGY INFORMATION.—The State shall provide that control technology information from permits issued under this

section will be promptly submitted to the Administrator for purposes of making such information available through the RACT/BACT/LAER clearinghouse to other States and to the general public.

"(e) ROCKET ENGINES OR MOTORS.—The permitting authority of a State shall allow a source to offset by alternative or innovative means emission increases from rocket engine and motor firing, and cleaning related to such firing, at an existing or modified major source that tests rocket engines or motors under the following conditions:

"(1) Any modification proposed is solely for the purpose of expanding the testing of rocket engines or motors at an existing source that is permitted to test such engines on the date of enactment of this subsection.

"(2) The source demonstrates to the satisfaction of the permitting authority of the State that it has used all reasonable means to obtain and utilize offsets, as determined on an annual basis, for the emissions increases beyond allowable levels, that all available offsets are being used, and that sufficient offsets are not available to the source.

"(3) The source has obtained a written finding from the Department of Defense, Department of Transportation, National Aeronautics and Space Administration or other appropriate Federal agency, that the testing of rocket motors or engines at the facility is required for a program essential to the national security.

"(4) The source will comply with an alternative measure, imposed by the permitting authority, designed to offset any emission increases beyond permitted levels not directly offset by the source. In lieu of imposing any alternative offset measures, the permitting authority may impose an emissions fee to be paid to such authority of a State which shall be an amount no greater than 1.5 times the average cost of stationary source control measures adopted in that area during the previous 3 years. The permitting authority shall utilize the fees in a manner that maximizes the emissions reductions in that area.".

(d) PLANNING PROCEDURES.—Section 174 (42 U.S.C. 7504) of the Clean Air Act is amended to read as follows:

"SEC. 174. PLANNING PROCEDURES.

"(a) IN GENERAL.—For any ozone, carbon monoxide, or PM-10 nonattainment area, the State containing such area and elected officials of affected local governments shall, before the date required for submittal of the inventory described under sections 182(a)(1) and 187(a)(1), jointly review and update as necessary the planning procedures adopted pursuant to this subsection as in effect immediately before the date of the enactment of the Clean Air Act Amendments of 1990, or develop new planning procedures pursuant to this subsection, as appropriate. In preparing such procedures the State and local elected officials shall determine which elements of a revised implementation plan will be developed, adopted, and implemented (through means including enforcement) by the State and which by local governments or regional agencies, or any combination of local governments, regional agencies, or the State. The implementation plan required by this part shall be prepared by an organization certified by the State, in consultation with elected officials of local governments and in accordance with the determination under the

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second sentence of this subsection. Such organization shall include elected officials of local governments in the affected area, and representatives of the State air quality planning agency, the State transportation planning agency, the metropolitan planning organization designated to conduct the continuing, cooperative and comprehensive transportation planning process for the area under section 134 of title 23, United States Code, the organization responsible for the air quality maintenance planning process under regulations implementing this Act, and any other organization with responsibilities for developing, submitting, or implementing the plan required by this part. Such organization may be one that carried out these functions before the date of the enactment of the Clean Air Act Amendments of 1990.

"(b) COORDINATION.—The preparation of implementation plan provisions and subsequent plan revisions under the continuing transportation-air quality planning process described in section 108(e) shall be coordinated with the continuing, cooperative and comprehensive transportation planning process required under section 134 of title 23, United States Code, and such planning processes shall take into account the requirements of this part.

"(c) JOINT PLANNING.—In the case of a nonattainment area that is included within more than one State, the affected States may jointly, through interstate compact or otherwise, undertake and implement all or part of the planning procedures described in this section.".

(e) MAINTENANCE PLANS.—After section 175 of the Clean Air Act insert:

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42 USC 7505a.

"SEC. 175A. MAINTENANCE PLANS.

"(a) PLAN REVISION.—Each State which submits a request under section 107(d) for redesignation of a nonattainment area for any air pollutant as an area which has attained the national primary ambient air quality standard for that air pollutant shall also submit a revision of the applicable State implementation plan to provide for the maintenance of the national primary ambient air quality standard for such air pollutant in the area concerned for at least 10 years after the redesignation. The plan shall contain such additional measures, if any, as may be necessary to ensure such maintenance.

"(b) SUBSEQUENT PLAN REVISIONS.—8 years after redesignation of any area as an attainment area under section 107(d), the State shall submit to the Administrator an additional revision of the applicable State implementation plan for maintaining the national primary ambient air quality standard for 10 years after the expiration of the 10-year period referred to in subsection (a).

"(c) NONATTAINMENT REQUIREMENTS APPLICABLE PENDING PLAN APPROVAL.—Until such plan revision is approved and an area is redesignated as attainment for any area designated as a nonattainment area, the requirements of this part shall continue in force and effect with respect to such area.

"(d) CONTINGENCY PROVISIONS.—Each plan revision submitted under this section shall contain such contingency provisions as the Administrator deems necessary to assure that the State will promptly correct any violation of the standard which occurs after the redesignation of the area as an attainment area. Such provisions shall include a requirement that the State will implement all measures with respect to the control of the air pollutant concerned which were contained in the State implementation plan for the area

before redesignation of the area as an attainment area. The failure of any area redesignated as an attainment area to maintain the national ambient air quality standard concerned shall not result in a requirement that the State revise its State implementation plan unless the Administrator, in the Administrator's discretion, requires the State to submit a revised State implementation plan.".

(f) INTERSTATE TRANSPORT PROVISIONS.—

(1) INTERSTATE TRANSPORT COMMISSIONS.—After section 176 of the Clean Air Act (42 U.S.C. 7506) insert:

"SEC. 176A. INTERSTATE TRANSPORT COMMISSIONS. 42 USC 7506a.

"(a) AUTHORITY TO ESTABLISH INTERSTATE TRANSPORT REGIONS.—Whenever, on the Administrator's own motion or by petition from the Governor of any State, the Administrator has reason to believe that the interstate transport of air pollutants from one or more States contributes significantly to a violation of a national ambient air quality standard in one or more other States, the Administrator may establish, by rule, a transport region for such pollutant that includes such States. The Administrator, on the Administrator's own motion or upon petition from the Governor of any State, or upon the recommendation of a transport commission established under subsection (b), may—

"(1) add any State or portion of a State to any region established under this subsection whenever the Administrator has reason to believe that the interstate transport of air pollutants from such State significantly contributes to a violation of the standard in the transport region, or

"(2) remove any State or portion of a State from the region whenever the Administrator has reason to believe that the control of emissions in that State or portion of the State pursuant to this section will not significantly contribute to the attainment of the standard in any area in the region.

The Administrator shall approve or disapprove any such petition or recommendation within 18 months of its receipt. The Administrator shall establish appropriate proceedings for public participation regarding such petitions and motions, including notice and comment.

"(b) TRANSPORT COMMISSIONS.—

"(1) ESTABLISHMENT.—Whenever the Administrator establishes a transport region under subsection (a), the Administrator shall establish a transport commission comprised of (at a minimum) each of the following members:

"(A) The Governor of each State in the region or the designee of each such Governor.

"(B) The Administrator or the Administrator's designee.

"(C) The Regional Administrator (or the Administrator's designee) for each Regional Office for each Environmental Protection Agency Region affected by the transport region concerned.

"(D) An air pollution control official representing each State in the region, appointed by the Governor.

Decisions of, and recommendations and requests to, the Administrator by each transport commission may be made only by a majority vote of all members other than the Administrator and the Regional Administrators (or designees thereof).

"(2) RECOMMENDATIONS.—The transport commission shall assess the degree of interstate transport of the pollutant or

precursors to the pollutant throughout the transport region, assess strategies for mitigating the interstate pollution, and recommend to the Administrator such measures as the Commission determines to be necessary to ensure that the plans for the relevant States meet the requirements of section 110(a)(2)(D). Such commission shall not be subject to the provisions of the Federal Advisory Committee Act (5 U.S.C. App.).

"(c) COMMISSION REQUESTS.—A transport commission established under subsection (b) may request the Administrator to issue a finding under section 110(k)(5) that the implementation plan for one or more of the States in the transport region is substantially inadequate to meet the requirements of section 110(a)(2)(D). The Administrator shall approve, disapprove, or partially approve and partially disapprove such a request within 18 months of its receipt and, to the extent the Administrator approves such request, issue the finding under section 110(k)(5) at the time of such approval. In acting on such request, the Administrator shall provide an opportunity for public participation and shall address each specific recommendation made by the commission. Approval or disapproval of such a request shall constitute final agency action within the meaning of section 307(b).".

(2) AMENDMENTS CONFORMING TO TRANSPORT PROVISIONS.—Section 106 of the Clean Air Act (42 U.S.C. 7406) is amended as follows:

(A) Insert "or of implementing section 176A (relating to control of interstate air pollution) or section 184 (relating to control of interstate ozone pollution)" immediately following "section 107".

(B) Insert "any commission established under section 176A (relating to control of interstate air pollution) or section 184 (relating to control of interstate ozone pollution) or" immediately following "program costs of".

(C) Insert "or such commission" in the last sentence immediately following "such agency".

(D) Insert "or commission" at the end thereof, immediately before the period.

(g) SANCTIONS.—After section 178 of the Clean Air Act (42 U.S.C. 7508) insert:

42 USC 7509.

"SEC. 179. SANCTIONS AND CONSEQUENCES OF FAILURE TO ATTAIN.

"(a) STATE FAILURE.—For any implementation plan or plan revision required under this part (or required in response to a finding of substantial inadequacy as described in section 110(k)(5)), if the Administrator—

"(1) finds that a State has failed, for an area designated nonattainment under section 107(d), to submit a plan, or to submit 1 or more of the elements (as determined by the Administrator) required by the provisions of this Act applicable to such an area, or has failed to make a submission for such an area that satisfies the minimum criteria established in relation to any such element under section 110(k),

"(2) disapproves a submission under section 110(k), for an area designated nonattainment under section 107, based on the submission's failure to meet one or more of the elements required by the provisions of this Act applicable to such an area,

"(3)(A) determines that a State has failed to make any submission as may be required under this Act, other than one de-

scribed under paragraph (1) or (2), including an adequate maintenance plan, or has failed to make any submission, as may be required under this Act, other than one described under paragraph (1) or (2), that satisfies the minimum criteria established in relation to such submission under section 110(k)(1)(A), or

"(B) disapproves in whole or in part a submission described under subparagraph (A), or

"(4) finds that any requirement of an approved plan (or approved part of a plan) is not being implemented,

unless such deficiency has been corrected within 18 months after the finding, disapproval, or determination referred to in paragraphs (1), (2), (3), and (4), one of the sanctions referred to in subsection (b) shall apply, as selected by the Administrator, until the Administrator determines that the State has come into compliance, except that if the Administrator finds a lack of good faith, sanctions under both paragraph (1) and paragraph (2) of subsection (b) shall apply until the Administrator determines that the State has come into compliance. If the Administrator has selected one of such sanctions and the deficiency has not been corrected within 6 months thereafter, sanctions under both paragraph (1) and paragraph (2) of subsection (b) shall apply until the Administrator determines that the State has come into compliance. In addition to any other sanction applicable as provided in this section, the Administrator may withhold all or part of the grants for support of air pollution planning and control programs that the Administrator may award under section 105.

"(b) SANCTIONS.—The sanctions available to the Administrator as provided in subsection (a) are as follows:

"(1) HIGHWAY SANCTIONS.—(A) The Administrator may impose a prohibition, applicable to a nonattainment area, on the approval by the Secretary of Transportation of any projects or the awarding by the Secretary of any grants, under title 23, United States Code, other than projects or grants for safety where the Secretary determines, based on accident or other appropriate data submitted by the State, that the principal purpose of the project is an improvement in safety to resolve a demonstrated safety problem and likely will result in a significant reduction in, or avoidance of, accidents. Such prohibition shall become effective upon the selection by the Administrator of this sanction.

"(B) In addition to safety, projects or grants that may be approved by the Secretary, notwithstanding the prohibition in subparagraph (A), are the following—

"(i) capital programs for public transit;

"(ii) construction or restriction of certain roads or lanes solely for the use of passenger buses or high occupancy vehicles;

"(iii) planning for requirements for employers to reduce employee work-trip-related vehicle emissions;

"(iv) highway ramp metering, traffic signalization, and related programs that improve traffic flow and achieve a net emission reduction;

"(v) fringe and transportation corridor parking facilities serving multiple occupancy vehicle programs or transit operations;

"(vi) programs to limit or restrict vehicle use in downtown areas or other areas of emission concentration

particularly during periods of peak use, through road use charges, tolls, parking surcharges, or other pricing mechanisms, vehicle restricted zones or periods, or vehicle registration programs;

"(vii) programs for breakdown and accident scene management, nonrecurring congestion, and vehicle information systems, to reduce congestion and emissions; and

"(viii) such other transportation-related programs as the Administrator, in consultation with the Secretary of Transportation, finds would improve air quality and would not encourage single occupancy vehicle capacity.

In considering such measures, the State should seek to ensure adequate access to downtown, other commercial, and residential areas, and avoid increasing or relocating emissions and congestion rather than reducing them.

"(2) OFFSETS.—In applying the emissions offset requirements of section 173 to new or modified sources or emissions units for which a permit is required under part D, the ratio of emission reductions to increased emissions shall be at least 2 to 1.

"(c) NOTICE OF FAILURE TO ATTAIN.—(1) As expeditiously as practicable after the applicable attainment date for any nonattainment area, but not later than 6 months after such date, the Administrator shall determine, based on the area's air quality as of the attainment date, whether the area attained the standard by that date.

Federal Register, publication.

"(2) Upon making the determination under paragraph (1), the Administrator shall publish a notice in the Federal Register containing such determination and identifying each area that the Administrator has determined to have failed to attain. The Administrator may revise or supplement such determination at any time based on more complete information or analysis concerning the area's air quality as of the attainment date.

"(d) CONSEQUENCES FOR FAILURE TO ATTAIN.—(1) Within 1 year after the Administrator publishes the notice under subsection (c)(2) (relating to notice of failure to attain), each State containing a nonattainment area shall submit a revision to the applicable implementation plan meeting the requirements of paragraph (2) of this subsection.

"(2) The revision required under paragraph (1) shall meet the requirements of section 110 and section 172. In addition, the revision shall include such additional measures as the Administrator may reasonably prescribe, including all measures that can be feasibly implemented in the area in light of technological achievability, costs, and any nonair quality and other air quality-related health and environmental impacts.

"(3) The attainment date applicable to the revision required under paragraph (1) shall be the same as provided in the provisions of section 172(a)(2), except that in applying such provisions the phrase 'from the date of the notice under section 179(c)(2)' shall be substituted for the phrase 'from the date such area was designated nonattainment under section 107(d)' and for the phrase 'from the date of designation as nonattainment'.".

(h) FEDERAL IMPLEMENTATION PLANS.—Section 110(c)(1) of the Clean Air Act (42 U.S.C. 7410(c)) is amended to read as follows: "(1) The Administrator shall promulgate a Federal implementation plan at any time within 2 years after the Administrator—

"(A) finds that a State has failed to make a required submission or finds that the plan or plan revision submitted by the State does not satisfy the minimum criteria established under section 110(k)(1)(A), or

"(B) disapproves a State implementation plan submission in whole or in part,

unless the State corrects the deficiency, and the Administrator approves the plan or plan revision, before the Administrator promulgates such Federal implementation plan.".

SEC. 103. ADDITIONAL PROVISIONS FOR OZONE NONATTAINMENT AREAS.

Part D of title I of the Clean Air Act is amended by adding the following new subpart at the end thereof:

"Subpart 2—Additional Provisions for Ozone Nonattainment Areas

"Sec. 181. Classifications and attainment dates.
"Sec. 182. Plan submissions and requirements.
"Sec. 183. Federal ozone measures.
"Sec. 184. Control of interstate ozone air pollution.
"Sec. 185. Enforcement for Severe and Extreme ozone nonattainment areas for failure to attain.
"Sec. 185A. Transitional areas.
"Sec. 185B. NOX and VOC study.

"SEC. 181. CLASSIFICATIONS AND ATTAINMENT DATES. 42 USC 7511.

"(a) CLASSIFICATION AND ATTAINMENT DATES FOR 1989 NONATTAINMENT AREAS.—(1) Each area designated nonattainment for ozone pursuant to section 107(d) shall be classified at the time of such designation, under table 1, by operation of law, as a Marginal Area, a Moderate Area, a Serious Area, a Severe Area, or an Extreme Area based on the design value for the area. The design value shall be calculated according to the interpretation methodology issued by the Administrator most recently before the date of the enactment of the Clean Air Act Amendments of 1990. For each area classified under this subsection, the primary standard attainment date for ozone shall be as expeditiously as practicable but not later than the date provided in table 1.

"TABLE 1

Area class	Design value*	Primary standard attainment date**
Marginal	0.121 up to 0.138	3 years after enactment
Moderate	0.138 up to 0.160	6 years after enactment
Serious	0.160 up to 0.180	9 years after enactment
Severe	0.180 up to 0.280	15 years after enactment
Extreme	0.280 and above	20 years after enactment

*The design value is measured in parts per million (ppm).
**The primary standard attainment date is measured from the date of the enactment of the Clean Air Amendments of 1990.

"(2) Notwithstanding table 1, in the case of a severe area with a 1988 ozone design value between 0.190 and 0.280 ppm, the attainment date shall be 17 years (in lieu of 15 years) after the date of the enactment of the Clean Air Amendments of 1990.

"(3) At the time of publication of the notice under section 107(d)(4) (relating to area designations) for each ozone nonattainment area, the Administrator shall publish a notice announcing the classification of such ozone nonattainment area. The provisions of section 172(a)(1)(B) (relating to lack of notice and comment and judicial review) shall apply to such classification.

"(4) If an area classified under paragraph (1) (Table 1) would have been classified in another category if the design value in the area were 5 percent greater or 5 percent less than the level on which such classification was based, the Administrator may, in the Administrator's discretion, within 90 days after the initial classification, by the procedure required under paragraph (3), adjust the classification to place the area in such other category. In making such adjustment, the Administrator may consider the number of exceedances of the national primary ambient air quality standard for ozone in the area, the level of pollution transport between the area and other affected areas, including both intrastate and interstate transport, and the mix of sources and air pollutants in the area.

"(5) Upon application by any State, the Administrator may extend for 1 additional year (hereinafter referred to as the 'Extension Year') the date specified in table 1 of paragraph (1) of this subsection if—

"(A) the State has complied with all requirements and commitments pertaining to the area in the applicable implementation plan, and

"(B) no more than 1 exceedance of the national ambient air quality standard level for ozone has occurred in the area in the year preceding the Extension Year.

No more than 2 one-year extensions may be issued under this paragraph for a single nonattainment area.

"(b) NEW DESIGNATIONS AND RECLASSIFICATIONS.—

"(1) NEW DESIGNATIONS TO NONATTAINMENT.—Any area that is designated attainment or unclassifiable for ozone under section 107(d)(4), and that is subsequently redesignated to nonattainment for ozone under section 107(d)(3), shall, at the time of the redesignation, be classified by operation of law in accordance with table 1 under subsection (a). Upon its classification, the area shall be subject to the same requirements under section 110, subpart 1 of this part, and this subpart that would have applied had the area been so classified at the time of the notice under subsection (a)(3), except that any absolute, fixed date applicable in connection with any such requirement is extended by operation of law by a period equal to the length of time between the date of the enactment of the Clean Air Act Amendments of 1990 and the date the area is classified under this paragraph.

"(2) RECLASSIFICATION UPON FAILURE TO ATTAIN.—(A) Within 6 months following the applicable attainment date (including any extension thereof) for an ozone nonattainment area, the Administrator shall determine, based on the area's design value (as of the attainment date), whether the area attained the standard by that date. Except for any Severe or Extreme area,

any area that the Administrator finds has not attained the standard by that date shall be reclassified by operation of law in accordance with table 1 of subsection (a) to the higher of—

"(i) the next higher classification for the area, or

"(ii) the classification applicable to the area's design value as determined at the time of the notice required under subparagraph (B).

No area shall be reclassified as Extreme under clause (ii).

"(B) The Administrator shall publish a notice in the Federal Register, no later than 6 months following the attainment date, identifying each area that the Administrator has determined under subparagraph (A) as having failed to attain and identifying the reclassification, if any, described under subparagraph (A). Federal Register, publication.

"(3) VOLUNTARY RECLASSIFICATION.—The Administrator shall grant the request of any State to reclassify a nonattainment area in that State in accordance with table 1 of subsection (a) to a higher classification. The Administrator shall publish a notice in the Federal Register of any such request and of action by the Administrator granting the request. Intergovernmental relations. Federal Register, publication.

"(4) FAILURE OF SEVERE AREAS TO ATTAIN STANDARD.—(A) If any Severe Area fails to achieve the national primary ambient air quality standard for ozone by the applicable attainment date (including any extension thereof), the fee provisions under section 185 shall apply within the area, the percent reduction requirements of section 182(c)(2)(B) and (C) (relating to reasonable further progress demonstration and NO_x control) shall continue to apply to the area, and the State shall demonstrate that such percent reduction has been achieved in each 3-year interval after such failure until the standard is attained. Any failure to make such a demonstration shall be subject to the sanctions provided under this part.

"(B) In addition to the requirements of subparagraph (A), if the ozone design value for a Severe Area referred to in subparagraph (A) is above 0.140 ppm for the year of the applicable attainment date, or if the area has failed to achieve its most recent milestone under section 182(g), the new source review requirements applicable under this subpart in Extreme Areas shall apply in the area and the term 'major source' and 'major stationary source' shall have the same meaning as in Extreme Areas.

"(C) In addition to the requirements of subparagraph (A) for those areas referred to in subparagraph (A) and not covered by subparagraph (B), the provisions referred to in subparagraph (B) shall apply after 3 years from the applicable attainment date unless the area has attained the standard by the end of such 3-year period.

"(D) If, after the date of the enactment of the Clean Air Act Amendments of 1990, the Administrator modifies the method of determining compliance with the national primary ambient air quality standard, a design value or other indicator comparable to 0.140 in terms of its relationship to the standard shall be used in lieu of 0.140 for purposes of applying the provisions of subparagraphs (B) and (C).

"(c) REFERENCES TO TERMS.—(1) Any reference in this subpart to a 'Marginal Area', a 'Moderate Area', a 'Serious Area', a 'Severe Area', or an 'Extreme Area' shall be considered a reference to a

Marginal Area, a Moderate Area, a Serious Area, a Severe Area, or an Extreme Area as respectively classified under this section.

"(2) Any reference in this subpart to 'next higher classification' or comparable terms shall be considered a reference to the classification related to the next higher set of design values in table 1.

Intergovernmental relations.
42 USC 7511a.

"SEC. 182. PLAN SUBMISSIONS AND REQUIREMENTS.

"(a) MARGINAL AREAS.—Each State in which all or part of a Marginal Area is located shall, with respect to the Marginal Area (or portion thereof, to the extent specified in this subsection), submit to the Administrator the State implementation plan revisions (including the plan items) described under this subsection except to the extent the State has made such submissions as of the date of the enactment of the Clean Air Act Amendments of 1990.

"(1) INVENTORY.—Within 2 years after the date of the enactment of the Clean Air Act Amendments of 1990, the State shall submit a comprehensive, accurate, current inventory of actual emissions from all sources, as described in section 172(c)(3), in accordance with guidance provided by the Administrator.

"(2) CORRECTIONS TO THE STATE IMPLEMENTATION PLAN.—Within the periods prescribed in this paragraph, the State shall submit a revision to the State implementation plan that meets the following requirements—

"(A) REASONABLY AVAILABLE CONTROL TECHNOLOGY CORRECTIONS.—For any Marginal Area (or, within the Administrator's discretion, portion thereof) the State shall submit, within 6 months of the date of classification under section 181(a), a revision that includes such provisions to correct requirements in (or add requirements to) the plan concerning reasonably available control technology as were required under section 172(b) (as in effect immediately before the date of the enactment of the Clean Air Act Amendments of 1990), as interpreted in guidance issued by the Administrator under section 108 before the date of the enactment of the Clean Air Act Amendments of 1990.

"(B) SAVINGS CLAUSE FOR VEHICLE INSPECTION AND MAINTENANCE.—(i) For any Marginal Area (or, within the Administrator's discretion, portion thereof), the plan for which already includes, or was required by section 172(b)(11)(B) (as in effect immediately before the date of the enactment of the Clean Air Act Amendments of 1990) to have included, a specific schedule for implementation of a vehicle emission control inspection and maintenance program, the State shall submit, immediately after the date of the enactment of the Clean Air Act Amendments of 1990, a revision that includes any provisions necessary to provide for a vehicle inspection and maintenance program of no less stringency than that of either the program defined in House Report Numbered 95-294, 95th Congress, 1st Session, 281-291 (1977) as interpreted in guidance of the Administrator issued pursuant to section 172(b)(11)(B) (as in effect immediately before the date of the enactment of the Clean Air Act Amendments of 1990) or the program already included in the plan, whichever is more stringent.

Federal Register, publication.

"(ii) Within 12 months after the date of the enactment of the Clean Air Act Amendments of 1990, the Administrator shall review, revise, update, and republish in the Federal

Register the guidance for the States for motor vehicle inspection and maintenance programs required by this Act, taking into consideration the Administrator's investigations and audits of such program. The guidance shall, at a minimum, cover the frequency of inspections, the types of vehicles to be inspected (which shall include leased vehicles that are registered in the nonattainment area), vehicle maintenance by owners and operators, audits by the State, the test method and measures, including whether centralized or decentralized, inspection methods and procedures, quality of inspection, components covered, assurance that a vehicle subject to a recall notice from a manufacturer has complied with that notice, and effective implementation and enforcement, including ensuring that any retesting of a vehicle after a failure shall include proof of corrective action and providing for denial of vehicle registration in the case of tampering or misfueling. The guidance which shall be incorporated in the applicable State implementation plans by the States shall provide the States with continued reasonable flexibility to fashion effective, reasonable, and fair programs for the affected consumer. No later than 2 years after the Administrator promulgates regulations under section 202(m)(3) (relating to emission control diagnostics), the State shall submit a revision to such program to meet any requirements that the Administrator may prescribe under that section.

"(C) PERMIT PROGRAMS.—Within 2 years after the date of the enactment of the Clean Air Act Amendments of 1990, the State shall submit a revision that includes each of the following:

"(i) Provisions to require permits, in accordance with sections 172(c)(5) and 173, for the construction and operation of each new or modified major stationary source (with respect to ozone) to be located in the area.

"(ii) Provisions to correct requirements in (or add requirements to) the plan concerning permit programs as were required under section 172(b)(6) (as in effect immediately before the date of the enactment of the Clean Air Act Amendments of 1990), as interpreted in regulations of the Administrator promulgated as of the date of the enactment of the Clean Air Act Amendments of 1990.

"(3) PERIODIC INVENTORY.—

"(A) GENERAL REQUIREMENT.—No later than the end of each 3-year period after submission of the inventory under paragraph (1) until the area is redesignated to attainment, the State shall submit a revised inventory meeting the requirements of subsection (a)(1).

"(B) EMISSIONS STATEMENTS.—(i) Within 2 years after the date of the enactment of the Clean Air Act Amendments of 1990, the State shall submit a revision to the State implementation plan to require that the owner or operator of each stationary source of oxides of nitrogen or volatile organic compounds provide the State with a statement, in such form as the Administrator may prescribe (or accept an equivalent alternative developed by the State), for classes or categories of sources, showing the actual emissions of

oxides of nitrogen and volatile organic compounds from that source. The first such statement shall be submitted within 3 years after the date of the enactment of the Clean Air Act Amendments of 1990. Subsequent statements shall be submitted at least every year thereafter. The statement shall contain a certification that the information contained in the statement is accurate to the best knowledge of the individual certifying the statement.

"(ii) The State may waive the application of clause (i) to any class or category of stationary sources which emit less than 25 tons per year of volatile organic compounds or oxides of nitrogen if the State, in its submissions under subparagraphs (1) or (3)(A), provides an inventory of emissions from such class or category of sources, based on the use of the emission factors established by the Administrator or other methods acceptable to the Administrator.

"(4) GENERAL OFFSET REQUIREMENT.—For purposes of satisfying the emission offset requirements of this part, the ratio of total emission reductions of volatile organic compounds to total increased emissions of such air pollutant shall be at least 1.1 to 1.

The Administrator may, in the Administrator's discretion, require States to submit a schedule for submitting any of the revisions or other items required under this subsection. The requirements of this subsection shall apply in lieu of any requirement that the State submit a demonstration that the applicable implementation plan provides for attainment of the ozone standard by the applicable attainment date in any Marginal Area. Section 172(c)(9) (relating to contingency measures) shall not apply to Marginal Areas.

"(b) MODERATE AREAS.—Each State in which all or part of a Moderate Area is located shall, with respect to the Moderate Area, make the submissions described under subsection (a) (relating to Marginal Areas), and shall also submit the revisions to the applicable implementation plan described under this subsection.

"(1) PLAN PROVISIONS FOR REASONABLE FURTHER PROGRESS.—

"(A) GENERAL RULE.—(i) By no later than 3 years after the date of the enactment of the Clean Air Act Amendments of 1990, the State shall submit a revision to the applicable implementation plan to provide for volatile organic compound emission reductions, within 6 years after the date of the enactment of the Clean Air Act Amendments of 1990, of at least 15 percent from baseline emissions, accounting for any growth in emissions after the year in which the Clean Air Act Amendments of 1990 are enacted. Such plan shall provide for such specific annual reductions in emissions of volatile organic compounds and oxides of nitrogen as necessary to attain the national primary ambient air quality standard for ozone by the attainment date applicable under this Act. This subparagraph shall not apply in the case of oxides of nitrogen for those areas for which the Administrator determines (when the Administrator approves the plan or plan revision) that additional reductions of oxides of nitrogen would not contribute to attainment.

"(ii) A percentage less than 15 percent may be used for purposes of clause (i) in the case of any State which demonstrates to the satisfaction of the Administrator that—

"(I) new source review provisions are applicable in the nonattainment areas in the same manner and to the same extent as required under subsection (e) in the case of Extreme Areas (with the exception that, in applying such provisions, the terms 'major source' and 'major stationary source' shall include (in addition to the sources described in section 302) any stationary source or group of sources located within a contiguous area and under common control that emits, or has the potential to emit, at least 5 tons per year of volatile organic compounds);

"(II) reasonably available control technology is required for all existing major sources (as defined in subclause (I)); and

"(III) the plan reflecting a lesser percentage than 15 percent includes all measures that can feasibly be implemented in the area, in light of technological achievability.

To qualify for a lesser percentage under this clause, a State must demonstrate to the satisfaction of the Administrator that the plan for the area includes the measures that are achieved in practice by sources in the same source category in nonattainment areas of the next higher category.

"(B) BASELINE EMISSIONS.—For purposes of subparagraph (A), the term 'baseline emissions' means the total amount of actual VOC or NO_x emissions from all anthropogenic sources in the area during the calendar year of the enactment of the Clean Air Act Amendments of 1990, excluding emissions that would be eliminated under the regulations described in clauses (i) and (ii) of subparagraph (D).

"(C) GENERAL RULE FOR CREDITABILITY OF REDUCTIONS.—Except as provided under subparagraph (D), emissions reductions are creditable toward the 15 percent required under subparagraph (A) to the extent they have actually occurred, as of 6 years after the date of the enactment of the Clean Air Act Amendments of 1990, from the implementation of measures required under the applicable implementation plan, rules promulgated by the Administrator, or a permit under title V.

"(D) LIMITS ON CREDITABILITY OF REDUCTIONS.—Emission reductions from the following measures are not creditable toward the 15 percent reductions required under subparagraph (A):

"(i) Any measure relating to motor vehicle exhaust or evaporative emissions promulgated by the Administrator by January 1, 1990.

"(ii) Regulations concerning Reid Vapor Pressure promulgated by the Administrator by the date of the enactment of the Clean Air Act Amendments of 1990 or required to be promulgated under section 211(h).

"(iii) Measures required under subsection (a)(2)(A) (concerning corrections to implementation plans prescribed under guidance by the Administrator).

"(iv) Measures required under subsection (a)(2)(B) to be submitted immediately after the date of the enactment of the Clean Air Act Amendments of 1990 (concerning corrections to motor vehicle inspection and maintenance programs).

"(2) REASONABLY AVAILABLE CONTROL TECHNOLOGY.—The State shall submit a revision to the applicable implementation plan to include provisions to require the implementation of reasonably available control technology under section 172(c)(1) with respect to each of the following:

"(A) Each category of VOC sources in the area covered by a CTG document issued by the Administrator between the date of the enactment of the Clean Air Act Amendments of 1990 and the date of attainment.

"(B) All VOC sources in the area covered by any CTG issued before the date of the enactment of the Clean Air Act Amendments of 1990.

"(C) All other major stationary sources of VOCs that are located in the area.

Each revision described in subparagraph (A) shall be submitted within the period set forth by the Administrator in issuing the relevant CTG document. The revisions with respect to sources described in subparagraphs (B) and (C) shall be submitted by 2 years after the date of the enactment of the Clean Air Act Amendments of 1990, and shall provide for the implementation of the required measures as expeditiously as practicable but no later than May 31, 1995.

"(3) GASOLINE VAPOR RECOVERY.—

"(A) GENERAL RULE.—Not later than 2 years after the date of the enactment of the Clean Air Act Amendments of 1990, the State shall submit a revision to the applicable implementation plan to require all owners or operators of gasoline dispensing systems to install and operate, by the date prescribed under subparagraph (B), a system for gasoline vapor recovery of emissions from the fueling of motor vehicles. The Administrator shall issue guidance as appropriate as to the effectiveness of such system. This subparagraph shall apply only to facilities which sell more than 10,000 gallons of gasoline per month (50,000 gallons per month in the case of an independent small business marketer of gasoline as defined in section 325).

"(B) EFFECTIVE DATE.—The date required under subparagraph (A) shall be—

"(i) 6 months after the adoption date, in the case of gasoline dispensing facilities for which construction commenced after the date of the enactment of the Clean Air Act Amendments of 1990;

"(ii) one year after the adoption date, in the case of gasoline dispensing facilities which dispense at least 100,000 gallons of gasoline per month, based on average monthly sales for the 2-year period before the adoption date; or

"(iii) 2 years after the adoption date, in the case of all other gasoline dispensing facilities.

Any gasoline dispensing facility described under both clause (i) and clause (ii) shall meet the requirements of clause (i).

"(C) REFERENCE TO TERMS.—For purposes of this paragraph, any reference to the term 'adoption date' shall be considered a reference to the date of adoption by the State of requirements for the installation and operation of a system for gasoline vapor recovery of emissions from the fueling of motor vehicles.

"(4) MOTOR VEHICLE INSPECTION AND MAINTENANCE.—For all Moderate Areas, the State shall submit, immediately after the date of the enactment of the Clean Air Act Amendments of 1990, a revision to the applicable implementation plan that includes provisions necessary to provide for a vehicle inspection and maintenance program as described in subsection (a)(2)(B) (without regard to whether or not the area was required by section 172(b)(11)(B) (as in effect immediately before the date of the enactment of the Clean Air Act Amendments of 1990) to have included a specific schedule for implementation of such a program).

"(5) GENERAL OFFSET REQUIREMENT.—For purposes of satisfying the emission offset requirements of this part, the ratio of total emission reductions of volatile organic compounds to total increase emissions of such air pollutant shall be at least 1.15 to 1.

"(c) SERIOUS AREAS.—Except as otherwise specified in paragraph (4), each State in which all or part of a Serious Area is located shall, with respect to the Serious Area (or portion thereof, to the extent specified in this subsection), make the submissions described under subsection (b) (relating to Moderate Areas), and shall also submit the revisions to the applicable implementation plan (including the plan items) described under this subsection. For any Serious Area, the terms 'major source' and 'major stationary source' include (in addition to the sources described in section 302) any stationary source or group of sources located within a contiguous area and under common control that emits, or has the potential to emit, at least 50 tons per year of volatile organic compounds.

"(1) ENHANCED MONITORING.—In order to obtain more comprehensive and representative data on ozone air pollution, not later than 18 months after the date of the enactment of the Clean Air Act Amendments of 1990 the Administrator shall promulgate rules, after notice and public comment, for enhanced monitoring of ozone, oxides of nitrogen, and volatile organic compounds. The rules shall, among other things, cover the location and maintenance of monitors. Immediately following the promulgation of rules by the Administrator relating to enhanced monitoring, the State shall commence such actions as may be necessary to adopt and implement a program based on such rules, to improve monitoring for ambient concentrations of ozone, oxides of nitrogen and volatile organic compounds and to improve monitoring of emissions of oxides of nitrogen and volatile organic compounds. Each State implementation plan for the area shall contain measures to improve the ambient monitoring of such air pollutants. Regulations.

"(2) ATTAINMENT AND REASONABLE FURTHER PROGRESS DEMONSTRATIONS.—Within 4 years after the date of the enactment of the Clean Air Act Amendments of 1990, the State shall submit a revision to the applicable implementation plan that includes each of the following:

"(A) ATTAINMENT DEMONSTRATION.—A demonstration that the plan, as revised, will provide for attainment of the ozone national ambient air quality standard by the applicable attainment date. This attainment demonstration must be based on photochemical grid modeling or any other analytical method determined by the Administrator, in the Administrator's discretion, to be at least as effective.

"(B) REASONABLE FURTHER PROGRESS DEMONSTRATION.—A demonstration that the plan, as revised, will result in VOC emissions reductions from the baseline emissions described in subsection (b)(1)(B) equal to the following amount averaged over each consecutive 3-year period beginning 6 years after the date of the enactment of the Clean Air Act Amendments of 1990, until the attainment date:

"(i) at least 3 percent of baseline emissions each year; or

"(ii) an amount less than 3 percent of such baseline emissions each year, if the State demonstrates to the satisfaction of the Administrator that the plan reflecting such lesser amount includes all measures that can feasibly be implemented in the area, in light of technological achievability.

To lessen the 3 percent requirement under clause (ii), a State must demonstrate to the satisfaction of the Administrator that the plan for the area includes the measures that are achieved in practice by sources in the same source category in nonattainment areas of the next higher classification. Any determination to lessen the 3 percent requirement shall be reviewed at each milestone under section 182(g) and revised to reflect such new measures (if any) achieved in practice by sources in the same category in any State, allowing a reasonable time to implement such measures. The emission reductions described in this subparagraph shall be calculated in accordance with subsection (b)(1) (C) and (D) (concerning creditability of reductions). The reductions creditable for the period beginning 6 years after the date of the enactment of the Clean Air Act Amendments of 1990, shall include reductions that occurred before such period, computed in accordance with subsection (b)(1), that exceed the 15-percent amount of reductions required under subsection (b)(1)(A).

"(C) NO_x CONTROL.—The revision may contain, in lieu of the demonstration required under subparagraph (B), a demonstration to the satisfaction of the Administrator that the applicable implementation plan, as revised, provides for reductions of emissions of VOC's and oxides of nitrogen (calculated according to the creditability provisions of subsection (b)(1) (C) and (D)), that would result in a reduction in ozone concentrations at least equivalent to that which would result from the amount of VOC emission reductions required under subparagraph (B). Within 1 year after the date of the enactment of the Clean Air Act Amendments of 1990, the Administrator shall issue guidance concerning the conditions under which NO_x control may be substituted for VOC control or may be combined with VOC control in order to maximize the reduction in ozone air pollution. In accord with such guidance, a lesser

percentage of VOCs may be accepted as an adequate demonstration for purposes of this subsection.

"(3) ENHANCED VEHICLE INSPECTION AND MAINTENANCE PROGRAM.—

"(A) REQUIREMENT FOR SUBMISSION.—Within 2 years after the date of the enactment of the Clean Air Act Amendments of 1990, the State shall submit a revision to the applicable implementation plan to provide for an enhanced program to reduce hydrocarbon emissions and NO_x emissions from in-use motor vehicles registered in each urbanized area (in the nonattainment area), as defined by the Bureau of the Census, with a 1980 population of 200,000 or more.

"(B) EFFECTIVE DATE OF STATE PROGRAMS; GUIDANCE.—The State program required under subparagraph (A) shall take effect no later than 2 years from the date of the enactment of the Clean Air Act Amendments of 1990, and shall comply in all respects with guidance published in the Federal Register (and from time to time revised) by the Administrator for enhanced vehicle inspection and maintenance programs. Such guidance shall include— Federal Register, publication.

"(i) a performance standard achievable by a program combining emission testing, including on-road emission testing, with inspection to detect tampering with emission control devices and misfueling for all light-duty vehicles and all light-duty trucks subject to standards under section 202; and

"(ii) program administration features necessary to reasonably assure that adequate management resources, tools, and practices are in place to attain and maintain the performance standard.

Compliance with the performance standard under clause (i) shall be determined using a method to be established by the Administrator.

"(C) STATE PROGRAM.—The State program required under subparagraph (A) shall include, at a minimum, each of the following elements—

"(i) Computerized emission analyzers, including on-road testing devices.

"(ii) No waivers for vehicles and parts covered by the emission control performance warranty as provided for in section 207(b) unless a warranty remedy has been denied in writing, or for tampering-related repairs.

"(iii) In view of the air quality purpose of the program, if, for any vehicle, waivers are permitted for emissions-related repairs not covered by warranty, an expenditure to qualify for the waiver of an amount of $450 or more for such repairs (adjusted annually as determined by the Administrator on the basis of the Consumer Price Index in the same manner as provided in title V).

"(iv) Enforcement through denial of vehicle registration (except for any program in operation before the date of the enactment of the Clean Air Act Amendments of 1990 whose enforcement mechanism is demonstrated to the Administrator to be more effective than the applicable vehicle registration program in

assuring that noncomplying vehicles are not operated on public roads).

"(v) Annual emission testing and necessary adjustment, repair, and maintenance, unless the State demonstrates to the satisfaction of the Administrator that a biennial inspection, in combination with other features of the program which exceed the requirements of this Act, will result in emission reductions which equal or exceed the reductions which can be obtained through such annual inspections.

"(vi) Operation of the program on a centralized basis, unless the State demonstrates to the satisfaction of the Administrator that a decentralized program will be equally effective. An electronically connected testing system, a licensing system, or other measures (or any combination thereof) may be considered, in accordance with criteria established by the Administrator, as equally effective for such purposes.

"(vii) Inspection of emission control diagnostic systems and the maintenance or repair of malfunctions or system deterioration identified by or affecting such diagnostics systems.

Reports. Each State shall biennially prepare a report to the Administrator which assesses the emission reductions achieved by the program required under this paragraph based on data collected during inspection and repair of vehicles. The methods used to assess the emission reductions shall be those established by the Administrator.

"(4) CLEAN-FUEL VEHICLE PROGRAMS.—(A) Except to the extent that substitute provisions have been approved by the Administrator under subparagraph (B), the State shall submit to the Administrator, within 42 months of the date of the enactment of the Clean Air Act Amendments of 1990, a revision to the applicable implementation plan for each area described under part C of title II to include such measures as may be necessary to ensure the effectiveness of the applicable provisions of the clean-fuel vehicle program prescribed under part C of title II, including all measures necessary to make the use of clean alternative fuels in clean-fuel vehicles (as defined in part C of title II) economic from the standpoint of vehicle owners. Such a revision shall also be submitted for each area that opts into the clean fuel-vehicle program as provided in part C of title II.

"(B) The Administrator shall approve, as a substitute for all or a portion of the clean-fuel vehicle program prescribed under part C of title II, any revision to the relevant applicable implementation plan that in the Administrator's judgment will achieve long-term reductions in ozone-producing and toxic air emissions equal to those achieved under part C of title II, or the percentage thereof attributable to the portion of the clean-fuel vehicle program for which the revision is to substitute. The Administrator may approve such revision only if it consists exclusively of provisions other than those required under this Act for the area. Any State seeking approval of such revision must submit the revision to the Administrator within 24 months of the date of the enactment of the Clean Air Act Amendments of 1990. The Administrator shall approve or disapprove any such revision within 30 months of the date of the

enactment of the Clean Air Act Amendments of 1990. The Administrator shall publish the revision submitted by a State in the Federal Register upon receipt. Such notice shall constitute a notice of proposed rulemaking on whether or not to approve such revision and shall be deemed to comply with the requirements concerning notices of proposed rulemaking contained in sections 553 through 557 of title 5 of the United States Code (related to notice and comment). Where the Administrator approves such revision for any area, the State need not submit the revision required by subparagraph (A) for the area with respect to the portions of the Federal clean-fuel vehicle program for which the Administrator has approved the revision as a substitute. Federal Register, publication.

"(C) If the Administrator determines, under section 179, that the State has failed to submit any portion of the program required under subparagraph (A), then, in addition to any sanctions available under section 179, the State may not receive credit, in any demonstration of attainment or reasonable further progress for the area, for any emission reductions from implementation of the corresponding aspects of the Federal clean-fuel vehicle requirements established in part C of title II.

"(5) TRANSPORTATION CONTROL.—(A) Beginning 6 years after the date of the enactment of the Clean Air Act Amendments of 1990 and each third year thereafter, the State shall submit a demonstration as to whether current aggregate vehicle mileage, aggregate vehicle emissions, congestion levels, and other relevant parameters are consistent with those used for the area's demonstration of attainment. Where such parameters and emissions levels exceed the levels projected for purposes of the area's attainment demonstration, the State shall within 18 months develop and submit a revision of the applicable implementation plan that includes a transportation control measures program consisting of measures from, but not limited to, section 108(f) that will reduce emissions to levels that are consistent with emission levels projected in such demonstration. In considering such measures, the State should ensure adequate access to downtown, other commercial, and residential areas and should avoid measures that increase or relocate emissions and congestion rather than reduce them. Such revision shall be developed in accordance with guidance issued by the Administrator pursuant to section 108(e) and with the requirements of section 174(b) and shall include implementation and funding schedules that achieve expeditious emissions reductions in accordance with implementation plan projections.

"(6) DE MINIMIS RULE.—The new source review provisions under this part shall ensure that increased emissions of volatile organic compounds resulting from any physical change in, or change in the method of operation of, a stationary source located in the area shall not be considered de minimis for purposes of determining the applicability of the permit requirements established by this Act unless the increase in net emissions of such air pollutant from such source does not exceed 25 tons when aggregated with all other net increases in emissions from the source over any period of 5 consecutive calendar years which includes the calendar year in which such increase occurred.

"(7) SPECIAL RULE FOR MODIFICATIONS OF SOURCES EMITTING LESS THAN 100 TONS.—In the case of any major stationary source of volatile organic compounds located in the area (other than a source which emits or has the potential to emit 100 tons or more of volatile organic compounds per year), whenever any change (as described in section 111(a)(4)) at that source results in any increase (other than a de minimis increase) in emissions of volatile organic compounds from any discrete operation, unit, or other pollutant emitting activity at the source, such increase shall be considered a modification for purposes of section 172(c)(5) and section 173(a), except that such increase shall not be considered a modification for such purposes if the owner or operator of the source elects to offset the increase by a greater reduction in emissions of volatile organic compounds concerned from other operations, units, or activities within the source at an internal offset ratio of at least 1.3 to 1. If the owner or operator does not make such election, such change shall be considered a modification for such purposes, but in applying section 173(a)(2) in the case of any such modification, the best available control technology (BACT), as defined in section 169, shall be substituted for the lowest achievable emission rate (LAER). The Administrator shall establish and publish policies and procedures for implementing the provisions of this paragraph.

"(8) SPECIAL RULE FOR MODIFICATIONS OF SOURCES EMITTING 100 TONS OR MORE.—In the case of any major stationary source of volatile organic compounds located in the area which emits or has the potential to emit 100 tons or more of volatile organic compounds per year, whenever any change (as described in section 111(a)(4)) at that source results in any increase (other than a de minimis increase) in emissions of volatile organic compounds from any discrete operation, unit, or other pollutant emitting activity at the source, such increase shall be considered a modification for purposes of section 172(c)(5) and section 173(a), except that if the owner or operator of the source elects to offset the increase by a greater reduction in emissions of volatile organic compounds from other operations, units, or activities within the source at an internal offset ratio of at least 1.3 to 1, the requirements of section 173(a)(2) (concerning the lowest achievable emission rate (LAER)) shall not apply.

"(9) CONTINGENCY PROVISIONS.—In addition to the contingency provisions required under section 172(c)(9), the plan revision shall provide for the implementation of specific measures to be undertaken if the area fails to meet any applicable milestone. Such measures shall be included in the plan revision as contingency measures to take effect without further action by the State or the Administrator upon a failure by the State to meet the applicable milestone.

"(10) GENERAL OFFSET REQUIREMENT.—For purposes of satisfying the emission offset requirements of this part, the ratio of total emission reductions of volatile organic compounds to total increase emissions of such air pollutant shall be at least 1.2 to 1.

Any reference to 'attainment date' in subsection (b), which is incorporated by reference into this subsection, shall refer to the attainment date for serious areas.

"(d) SEVERE AREAS.—Each State in which all or part of a Severe Area is located shall, with respect to the Severe Area, make the

submissions described under subsection (c) (relating to Serious Areas), and shall also submit the revisions to the applicable implementation plan (including the plan items) described under this subsection. For any Severe Area, the terms 'major source' and 'major stationary source' include (in addition to the sources described in section 302) any stationary source or group of sources located within a contiguous area and under common control that emits, or has the potential to emit, at least 25 tons per year of volatile organic compounds.

"(1) VEHICLE MILES TRAVELED.—(A) Within 2 years after the date of enactment of the Clean Air Act Amendments of 1990, the State shall submit a revision that identifies and adopts specific enforceable transportation control strategies and transportation control measures to offset any growth in emissions from growth in vehicle miles traveled or numbers of vehicle trips in such area and to attain reduction in motor vehicle emissions as necessary, in combination with other emission reduction requirements of this subpart, to comply with the requirements of subsection (b)(2)(B) and (c)(2)(B) (pertaining to periodic emissions reduction requirements). The State shall consider measures specified in section 108(f), and choose from among and implement such measures as necessary to demonstrate attainment with the national ambient air quality standards; in considering such measures, the State should ensure adequate access to downtown, other commercial, and residential areas and should avoid measures that increase or relocate emissions and congestion rather than reduce them.

"(B) Within 2 years after the date of enactment of the Clean Air Act Amendments of 1990, the State shall submit a revision requiring employers in such area to implement programs to reduce work-related vehicle trips and miles traveled by employees. Such revision shall be developed in accordance with guidance issued by the Administrator pursuant to section 108(f) and shall, at a minimum, require that each employer of 100 or more persons in such area increase average passenger occupancy per vehicle in commuting trips between home and the workplace during peak travel periods by not less than 25 percent above the average vehicle occupancy for all such trips in the area at the time the revision is submitted. The guidance of the Administrator may specify average vehicle occupancy rates which vary for locations within a nonattainment area (suburban, center city, business district) or among nonattainment areas reflecting existing occupancy rates and the availability of high occupancy modes. The revision shall provide that each employer subject to a vehicle occupancy requirement shall submit a compliance plan within 2 years after the date the revision is submitted which shall convincingly demonstrate compliance with the requirements of this paragraph not later than 4 years after such date.

"(2) OFFSET REQUIREMENT.—For purposes of satisfying the offset requirements pursuant to this part, the ratio of total emission reductions of VOCs to total increased emissions of such air pollutant shall be at least 1.3 to 1, except that if the State plan requires all existing major sources in the nonattainment area to use best available control technology (as defined in section 169(3)) for the control of volatile organic compounds, the ratio shall be at least 1.2 to 1.

"(3) ENFORCEMENT UNDER SECTION 185.—By December 31, 2000, the State shall submit a plan revision which includes the provisions required under section 185.

Any reference to the term 'attainment date' in subsection (b) or (c), which is incorporated by reference into this subsection (d), shall refer to the attainment date for Severe Areas.

"(e) EXTREME AREAS.—Each State in which all or part of an Extreme Area is located shall, with respect to the Extreme Area, make the submissions described under subsection (d) (relating to Severe Areas), and shall also submit the revisions to the applicable implementation plan (including the plan items) described under this subsection. The provisions of clause (ii) of subsection (c)(2)(B) (relating to reductions of less than 3 percent), the provisions of paragaphs (6), (7) and (8) of subsection (c) (relating to de minimus rule and modification of sources), and the provisions of clause (ii) of subsection (b)(1)(A) (relating to reductions of less than 15 percent) shall not apply in the case of an Extreme Area. For any Extreme Area, the terms 'major source' and 'major stationary source' includes (in addition to the sources described in section 302) any stationary source or group of sources located within a contiguous area and under common control that emits, or has the potential to emit, at least 10 tons per year of volatile organic compounds.

"(1) OFFSET REQUIREMENT.—For purposes of satisfying the offset requirements pursuant to this part, the ratio of total emission reductions of VOCs to total increased emissions of such air pollutant shall be at least 1.5 to 1, except that if the State plan requires all existing major sources in the nonattainment area to use best available control technology (as defined in section 169(3)) for the control of volatile organic compounds, the ratio shall be at least 1.2 to 1.

"(2) MODIFICATIONS—Any change (as described in section 111(a)(4)) at a major stationary source which results in any increase in emissions from any discrete operation, unit, or other pollutant emitting activity at the source shall be considered a modification for purposes of section 172(c)(5) and section 173(a), except that for purposes of complying with the offset requirement pursuant to section 173(a)(1), any such increase shall not be considered a modification if the owner or operator of the source elects to offset the increase by a greater reduction in emissions of the air pollutant concerned from other discrete operations, units, or activities within the source at an internal offset ratio of at least 1.3 to 1. The offset requirements of this part shall not be applicable in Extreme Areas to a modification of an existing source if such modification consists of installation of equipment required to comply with the applicable implementation plan, permit, or this Act.

"(3) USE OF CLEAN FUELS OR ADVANCED CONTROL TECHNOLOGY.—For Extreme Areas, a plan revision shall be submitted within 3 years after the date of the enactment of the Clean Air Act Amendments of 1990 to require, effective 8 years after such date, that each new, modified, and existing electric utility and industrial and commercial boiler which emits more than 25 tons per year of oxides of nitrogen—

"(A) burn as its primary fuel natural gas, methanol, or ethanol (or a comparably low polluting fuel), or

"(B) use advanced control technology (such as catalytic control technology or other comparably effective control methods) for reduction of emissions of oxides of nitrogen.

For purposes of this subsection, the term 'primary fuel' means the fuel which is used 90 percent or more of the operating time. This paragraph shall not apply during any natural gas supply emergency (as defined in title III of the Natural Gas Policy Act of 1978).

"(4) TRAFFIC CONTROL MEASURES DURING HEAVY TRAFFIC HOURS.—For Extreme Areas, each implementation plan revision under this subsection may contain provisions establishing traffic control measures applicable during heavy traffic hours to reduce the use of high polluting vehicles or heavy-duty vehicles, notwithstanding any other provision of law.

"(5) NEW TECHNOLOGIES.—The Administrator may, in accordance with section 110, approve provisions of an implementation plan for an Extreme Area which anticipate development of new control techniques or improvement of existing control technologies, and an attainment demonstration based on such provisions, if the State demonstrates to the satisfaction of the Administrator that—

"(A) such provisions are not necessary to achieve the incremental emission reductions required during the first 10 years after the date of the enactment of the Clean Air Act Amendments of 1990; and

"(B) the State has submitted enforceable commitments to develop and adopt contingency measures to be implemented as set forth herein if the anticipated technologies do not achieve planned reductions.

Such contingency measures shall be submitted to the Administrator no later than 3 years before proposed implementation of the plan provisions and approved or disapproved by the Administrator in accordance with section 110. The contingency measures shall be adequate to produce emission reductions sufficient, in conjunction with other approved plan provisions, to achieve the periodic emission reductions required by subsection (b)(1) or (c)(2) and attainment by the applicable dates. If the Administrator determines that an Extreme Area has failed to achieve an emission reduction requirement set forth in subsection (b)(1) or (c)(2), and that such failure is due in whole or part to an inability to fully implement provisions approved pursuant to this subsection, the Administrator shall require the State to implement the contingency measures to the extent necessary to assure compliance with subsections (b)(1) and (c)(2).

Any reference to the term 'attainment date' in subsection (b), (c), or (d) which is incorporated by reference into this subsection, shall refer to the attainment date for Extreme Areas.

"(f) NO_x REQUIREMENTS.—(1) The plan provisions required under this subpart for major stationary sources of volatile organic compounds shall also apply to major stationary sources (as defined in section 302 and subsections (c), (d), and (e) of this section) of oxides of nitrogen. This subsection shall not apply in the case of oxides of nitrogen for those sources for which the Administrator determines (when the Administrator approves a plan or plan revision) that net air quality benefits are greater in the absence of reductions of oxides of nitrogen from the sources concerned. This subsection shall also not apply in the case of oxides of nitrogen for—

"(A) nonattainment areas not within an ozone transport region under section 184 if the Administrator determines (when the Administrator approves a plan or plan revision) that additional reductions of oxides of nitrogen would not contribute to attainment of the national ambient air quality standard for ozone in the area, or

"(B) nonattainment areas within such an ozone transport region if the Administrator determines (when the Administrator approves a plan or plan revision) that additional reductions of oxides of nitrogen would not produce net ozone air quality benefits in such region.

The Administrator shall, in the Administrator's determinations, consider the study required under section 185B.

"(2)(A) If the Administrator determines that excess reductions in emissions of NO_x would be achieved under paragraph (1), the Administrator may limit the application of paragraph (1) to the extent necessary to avoid achieving such excess reductions.

"(B) For purposes of this paragraph, excess reductions in emissions of NO_x are emission reductions for which the Administrator determines that net air quality benefits are greater in the absence of such reductions. Alternatively, for purposes of this paragraph, excess reductions in emissions of NO_x are, for—

"(i) nonattainment areas not within an ozone transport region under section 184, emission reductions that the Administrator determines would not contribute to attainment of the national ambient air quality standard for ozone in the area, or

"(ii) nonattainment areas within such ozone transport region, emission reductions that the Administrator determines would not produce net ozone air quality benefits in such region.

"(3) At any time after the final report under section 185B is submitted to Congress, a person may petition the Administrator for a determination under paragraph (1) or (2) with respect to any nonattainment area or any ozone transport region under section 184. The Administrator shall grant or deny such petition within 6 months after its filing with the Administrator.

"(g) MILESTONES.—

"(1) REDUCTIONS IN EMISSIONS.—6 years after the date of the enactment of the Clean Air Amendments of 1990 and at intervals of every 3 years thereafter, the State shall determine whether each nonattainment area (other than an area classified as Marginal or Moderate) has achieved a reduction in emissions during the preceding intervals equivalent to the total emission reductions required to be achieved by the end of such interval pursuant to subsection (b)(1) and the corresponding requirements of subsections (c)(2) (B) and (C), (d), and (e). Such reduction shall be referred to in this section as an applicable milestone.

"(2) COMPLIANCE DEMONSTRATION.—For each nonattainment area referred to in paragraph (1), not later than 90 days after the date on which an applicable milestone occurs (not including an attainment date on which a milestone occurs in cases where the standard has been attained), each State in which all or part of such area is located shall submit to the Administrator a demonstration that the milestone has been met. A demonstration under this paragraph shall be submitted in such form and manner, and shall contain such information and analysis, as the Administrator shall require, by rule. The Administrator shall

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determine whether or not a State's demonstration is adequate within 90 days after the Administrator's receipt of a demonstration which contains the information and analysis required by the Administrator.

"(3) SERIOUS AND SEVERE AREAS; STATE ELECTION.—If a State fails to submit a demonstration under paragraph (2) for any Serious or Severe Area within the required period or if the Administrator determines that the area has not met any applicable milestone, the State shall elect, within 90 days after such failure or determination—

"(A) to have the area reclassified to the next higher classification,

"(B) to implement specific additional measures adequate, as determined by the Administrator, to meet the next milestone as provided in the applicable contingency plan, or

"(C) to adopt an economic incentive program as described in paragraph (4).

If the State makes an election under subparagraph (B), the Administrator shall, within 90 days after the election, review such plan and shall, if the Administrator finds the contingency plan inadequate, require further measures necessary to meet such milestone. Once the State makes an election, it shall be deemed accepted by the Administrator as meeting the election requirement. If the State fails to make an election required under this paragraph within the required 90-day period or within 6 months thereafter, the area shall be reclassified to the next higher classification by operation of law at the expiration of such 6-month period. Within 12 months after the date required for the State to make an election, the State shall submit a revision of the applicable implementation plan for the area that meets the requirements of this paragraph. The Administrator shall review such plan revision and approve or disapprove the revision within 9 months after the date of its submission.

"(4) ECONOMIC INCENTIVE PROGRAM.—(A) An economic incentive program under this paragraph shall be consistent with rules published by the Administrator and sufficient, in combination with other elements of the State plan, to achieve the next milestone. The State program may include a nondiscriminatory system, consistent with applicable law regarding interstate commerce, of State established emissions fees or a system of marketable permits, or a system of State fees on sale or manufacture of products the use of which contributes to ozone formation, or any combination of the foregoing or other similar measures. The program may also include incentives and requirements to reduce vehicle emissions and vehicle miles traveled in the area, including any of the transportation control measures identified in section 108(f).

"(B) Within 2 years after the date of the enactment of the Clean Air Act Amendments of 1990, the Administrator shall publish rules for the programs to be adopted pursuant to subparagraph (A). Such rules shall include model plan provisions which may be adopted for reducing emissions from permitted stationary sources, area sources, and mobile sources. The guidelines shall require that any revenues generated by the plan provisions adopted pursuant to subparagraph (A) shall be used by the State for any of the following: Regulations.

"(i) Providing incentives for achieving emission reductions.

"(ii) Providing assistance for the development of innovative technologies for the control of ozone air pollution and for the development of lower-polluting solvents and surface coatings. Such assistance shall not provide for the payment of more than 75 percent of either the costs of any project to develop such a technology or the costs of development of a lower-polluting solvent or surface coating.

"(iii) Funding the administrative costs of State programs under this Act. Not more than 50 percent of such revenues may be used for purposes of this clause.

"(5) EXTREME AREAS.—If a State fails to submit a demonstration under paragraph (2) for any Extreme Area within the required period, or if the Administrator determines that the area has not met any applicable milestone, the State shall, within 9 months after such failure or determination, submit a plan revision to implement an economic incentive program which meets the requirements of paragraph (4). The Administrator shall review such plan revision and approve or disapprove the revision within 9 months after the date of its submission.

"(h) RURAL TRANSPORT AREAS.—(1) Notwithstanding any other provision of section 181 or this section, a State containing an ozone nonattainment area that does not include, and is not adjacent to, any part of a Metropolitan Statistical Area or, where one exists, a Consolidated Metropolitan Statistical Area (as defined by the United States Bureau of the Census), which area is treated by the Administrator, in the Administrator's discretion, as a rural transport area within the meaning of paragraph (2), shall be treated by operation of law as satisfying the requirements of this section if it makes the submissions required under subsection (a) of this section (relating to marginal areas).

"(2) The Administrator may treat an ozone nonattainment area as a rural transport area if the Administrator finds that sources of VOC (and, where the Administrator determines relevant, NO_x) emissions within the area do not make a significant contribution to the ozone concentrations measured in the area or in other areas.

"(i) RECLASSIFIED AREAS.—Each State containing an ozone nonattainment area reclassified under section 181(b)(2) shall meet such requirements of subsections (b) through (d) of this section as may be applicable to the area as reclassified, according to the schedules prescribed in connection with such requirements, except that the Administrator may adjust any applicable deadlines (other than attainment dates) to the extent such adjustment is necessary or appropriate to assure consistency among the required submissions.

"(j) MULTI-STATE OZONE NONATTAINMENT AREAS.—

"(1) COORDINATION AMONG STATES.—Each State in which there is located a portion of a single ozone nonattainment area which covers more than one State (hereinafter in this section referred to as a 'multi-State ozone nonattainment area') shall—

"(A) take all reasonable steps to coordinate, substantively and procedurally, the revisions and implementation of State implementation plans applicable to the nonattainment area concerned; and

"(B) use photochemical grid modeling or any other analytical method determined by the Administrator, in his discretion, to be at least as effective.

The Administrator may not approve any revision of a State implementation plan submitted under this part for a State in which part of a multi-State ozone nonattainment area is located if the plan revision for that State fails to comply with the requirements of this subsection.

"(2) FAILURE TO DEMONSTRATE ATTAINMENT.—If any State in which there is located a portion of a multi-State ozone nonattainment area fails to provide a demonstration of attainment of the national ambient air quality standard for ozone in that portion within the required period, the State may petition the Administrator to make a finding that the State would have been able to make such demonstration but for the failure of one or more other States in which other portions of the area are located to commit to the implementation of all measures required under section 182 (relating to plan submissions and requirements for ozone nonattainment areas). If the Administrator makes such finding, the provisions of section 179 (relating to sanctions) shall not apply, by reason of the failure to make such demonstration, in the portion of the multi-State ozone nonattainment area within the State submitting such petition.

"SEC. 183. FEDERAL OZONE MEASURES. 42 USC 7511b.

"(a) CONTROL TECHNIQUES GUIDELINES FOR VOC SOURCES.—Within 3 years after the date of the enactment of the Clean Air Act Amendments of 1990, the Administrator shall issue control techniques guidelines, in accordance with section 108, for 11 categories of stationary sources of VOC emissions for which such guidelines have not been issued as of such date of enactment, not including the categories referred to in paragraphs (3) and (4) of subsection (b) of this section. The Administrator may issue such additional control techniques guidelines as the Administrator deems necessary.

"(b) EXISTING AND NEW CTGS.—(1) Within 36 months after the date of the enactment of the Clean Air Act Amendments of 1990, and periodically thereafter, the Administrator shall review and, if necessary, update control technique guidance issued under section 108 before the date of the enactment of the Clean Air Act Amendments of 1990.

"(2) In issuing the guidelines the Administrator shall give priority to those categories which the Administrator considers to make the most significant contribution to the formation of ozone air pollution in ozone nonattainment areas, including hazardous waste treatment, storage, and disposal facilities which are permitted under subtitle C of the Solid Waste Disposal Act. Thereafter the Administrator shall periodically review and, if necessary, revise such guidelines.

"(3) Within 3 years after the date of the enactment of the Clean Air Act Amendments of 1990, the Administrator shall issue control techniques guidelines in accordance with section 108 to reduce the aggregate emissions of volatile organic compounds into the ambient air from aerospace coatings and solvents. Such control techniques guidelines shall, at a minimum, be adequate to reduce aggregate emissions of volatile organic compounds into the ambient air from the application of such coatings and solvents to such level as the Administrator determines may be achieved through the adoption of

best available control measures. Such control technology guidance shall provide for such reductions in such increments and on such schedules as the Administrator determines to be reasonable, but in no event later than 10 years after the final issuance of such control technology guidance. In developing control technology guidance under this subsection, the Administrator shall consult with the Secretary of Defense, the Secretary of Transportation, and the Administrator of the National Aeronautics and Space Administration with regard to the establishment of specifications for such coatings. In evaluating VOC reduction strategies, the guidance shall take into account the applicable requirements of section 112 and the need to protect stratospheric ozone.

"(4) Within 3 years after the date of the enactment of the Clean Air Act Amendments of 1990, the Administrator shall issue control techniques guidelines in accordance with section 108 to reduce the aggregate emissions of volatile organic compounds and PM-10 into the ambient air from paints, coatings, and solvents used in shipbuilding operations and ship repair. Such control techniques guidelines shall, at a minimum, be adequate to reduce aggregate emissions of volatile organic compounds and PM-10 into the ambient air from the removal or application of such paints, coatings, and solvents to such level as the Administrator determines may be achieved through the adoption of the best available control measures. Such control techniques guidelines shall provide for such reductions in such increments and on such schedules as the Administrator determines to be reasonable, but in no event later than 10 years after the final issuance of such control technology guidance. In developing control techniques guidelines under this subsection, the Administrator shall consult with the appropriate Federal agencies.

"(c) ALTERNATIVE CONTROL TECHNIQUES.—Within 3 years after the date of the enactment of the Clean Air Act Amendments of 1990, the Administrator shall issue technical documents which identify alternative controls for all categories of stationary sources of volatile organic compounds and oxides of nitrogen which emit, or have the potential to emit 25 tons per year or more of such air pollutant. The Administrator shall revise and update such documents as the Administrator determines necessary.

"(d) GUIDANCE FOR EVALUATING COST-EFFECTIVENESS.—Within 1 year after the date of the enactment of the Clean Air Act Amendments of 1990, the Administrator shall provide guidance to the States to be used in evaluating the relative cost-effectiveness of various options for the control of emissions from existing stationary sources of air pollutants which contribute to nonattainment of the national ambient air quality standards for ozone.

"(e) CONTROL OF EMISSIONS FROM CERTAIN SOURCES.—

"(1) DEFINITIONS.—For purposes of this subsection—

"(A) BEST AVAILABLE CONTROLS.—The term 'best available controls' means the degree of emissions reduction that the Administrator determines, on the basis of technological and economic feasibility, health, environmental, and energy impacts, is achievable through the application of the most effective equipment, measures, processes, methods, systems or techniques, including chemical reformulation, product or feedstock substitution, repackaging, and directions for use, consumption, storage, or disposal.

"(B) CONSUMER OR COMMERCIAL PRODUCT.—The term 'consumer or commercial product' means any substance, product (including paints, coatings, and solvents), or article (including any container or packaging) held by any person, the use, consumption, storage, disposal, destruction, or decomposition of which may result in the release of volatile organic compounds. The term does not include fuels or fuel additives regulated under section 211, or motor vehicles, non-road vehicles, and non-road engines as defined under section 216.

"(C) REGULATED ENTITIES.—The term 'regulated entities' means—

"(i) manufacturers, processors, wholesale distributors, or importers of consumer or commercial products for sale or distribution in interstate commerce in the United States; or

"(ii) manufacturers, processors, wholesale distributors, or importers that supply the entities listed under clause (i) with such products for sale or distribution in interstate commerce in the United States.

"(2) STUDY AND REPORT.—

"(A) STUDY.—The Administrator shall conduct a study of the emissions of volatile organic compounds into the ambient air from consumer and commercial products (or any combination thereof) in order to—

"(i) determine their potential to contribute to ozone levels which violate the national ambient air quality standard for ozone; and

"(ii) establish criteria for regulating consumer and commercial products or classes or categories thereof which shall be subject to control under this subsection.

The study shall be completed and a report submitted to Congress not later than 3 years after the date of the enactment of the Clean Air Act Amendments of 1990.

"(B) CONSIDERATION OF CERTAIN FACTORS.—In establishing the criteria under subparagraph (A)(ii), the Administrator shall take into consideration each of the following:

"(i) The uses, benefits, and commercial demand of consumer and commercial products.

"(ii) The health or safety functions (if any) served by such consumer and commercial products.

"(iii) Those consumer and commercial products which emit highly reactive volatile organic compounds into the ambient air.

"(iv) Those consumer and commercial products which are subject to the most cost-effective controls.

"(v) The availability of alternatives (if any) to such consumer and commercial products which are of comparable costs, considering health, safety, and environmental impacts.

"(3) REGULATIONS TO REQUIRE EMISSION REDUCTIONS.—

"(A) IN GENERAL.—Upon submission of the final report under paragraph (2), the Administrator shall list those categories of consumer or commercial products that the Administrator determines, based on the study, account for at least 80 percent of the VOC emissions, on a reactivity-adjusted basis, from consumer or commercial products in

areas that violate the NAAQS for ozone. Credit toward the 80 percent emissions calculation shall be given for emission reductions from consumer or commercial products made after the date of enactment of this section. At such time, the Administrator shall divide the list into 4 groups establishing priorities for regulation based on the criteria established in paragraph (2). Every 2 years after promulgating such list, the Administrator shall regulate one group of categories until all 4 groups are regulated. The regulations shall require best available controls as defined in this section. Such regulations may exempt health use products for which the Administrator determines there is no suitable substitute. In order to carry out this section, the Administrator may, by regulation, control or prohibit any activity, including the manufacture or introduction into commerce, offering for sale, or sale of any consumer or commercial product which results in emission of volatile organic compounds into the ambient air.

"(B) REGULATED ENTITIES.—Regulations under this subsection may be imposed only with respect to regulated entities.

"(C) USE OF CTGS.—For any consumer or commercial product the Administrator may issue control techniques guidelines under this Act in lieu of regulations required under subparagraph (A) if the Administrator determines that such guidance will be substantially as effective as regulations in reducing emissions of volatile organic compounds which contribute to ozone levels in areas which violate the national ambient air quality standard for ozone.

"(4) SYSTEMS OF REGULATION.—The regulations under this subsection may include any system or systems of regulation as the Administrator may deem appropriate, including requirements for registration and labeling, self-monitoring and reporting, prohibitions, limitations, or economic incentives (including marketable permits and auctions of emissions rights) concerning the manufacture, processing, distribution, use, consumption, or disposal of the product.

"(5) SPECIAL FUND.—Any amounts collected by the Administrator under such regulations shall be deposited in a special fund in the United States Treasury for licensing and other services, which thereafter shall be available until expended, subject to annual appropriation Acts, solely to carry out the activities of the Administrator for which such fees, charges, or collections are established or made.

"(6) ENFORCEMENT.—Any regulation established under this subsection shall be treated, for purposes of enforcement of this Act, as a standard under section 111 and any violation of such regulation shall be treated as a violation of a requirement of section 111(e).

"(7) STATE ADMINISTRATION.—Each State may develop and submit to the Administrator a procedure under State law for implementing and enforcing regulations promulgated under this subsection. If the Administrator finds the State procedure is adequate, the Administrator shall approve such procedure. Nothing in this paragraph shall prohibit the Administrator from enforcing any applicable regulations under this subsection.

"(8) SIZE, ETC.—No regulations regarding the size, shape, or labeling of a product may be promulgated, unless the Administrator determines such regulations to be useful in meeting any national ambient air quality standard.

"(9) STATE CONSULTATION.—Any State which proposes regulations other than those adopted under this subsection shall consult with the Administrator regarding whether any other State or local subdivision has promulgated or is promulgating regulations on any products covered under this part. The Administrator shall establish a clearinghouse of information, studies, and regulations proposed and promulgated regarding products covered under this subsection and disseminate such information collected as requested by State or local subdivisions.

"(f) TANK VESSEL STANDARDS.—

"(1) SCHEDULE FOR STANDARDS.—(A) Within 2 years after the date of the enactment of the Clean Air Act Amendments of 1990, the Administrator, in consultation with the Secretary of the Department in which the Coast Guard is operating, shall promulgate standards applicable to the emission of VOCs and any other air pollutant from loading and unloading of tank vessels (as that term is defined in section 2101 of title 46 of the United States Code) which the Administrator finds causes, or contributes to, air pollution that may be reasonably anticipated to endanger public health or welfare. Such standards shall require the application of reasonably available control technology, considering costs, any nonair-quality benefits, environmental impacts, energy requirements and safety factors associated with alternative control techniques. To the extent practicable such standards shall apply to loading and unloading facilities and not to tank vessels.

"(B) Any regulation prescribed under this subsection (and any revision thereof) shall take effect after such period as the Administrator finds (after consultation with the Secretary of the department in which the Coast Guard is operating) necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period, except that the effective date shall not be more than 2 years after promulgation of such regulations. Effective dates.

"(2) REGULATIONS ON EQUIPMENT SAFETY.—Within 6 months after the date of the enactment of the Clean Air Act Amendments of 1990, the Secretary of the Department in which the Coast Guard is operating shall issue regulations to ensure the safety of the equipment and operations which are to control emissions from the loading and unloading of tank vessels, under section 3703 of title 46 of the United States Code and section 6 of the Ports and Waterways Safety Act (33 U.S.C. 1225). The standards promulgated by the Administrator under paragraph (1) and the regulations issued by a State or political subdivision regarding emissions from the loading and unloading of tank vessels shall be consistent with the regulations regarding safety of the Department in which the Coast Guard is operating.

"(3) AGENCY AUTHORITY.—(A) The Administrator shall ensure compliance with the tank vessel emission standards prescribed under paragraph (1)(A). The Secretary of the Department in which the Coast Guard is operating shall also ensure compli-

ance with the tank vessel standards prescribed under paragraph (1)(A).

"(B) The Secretary of the Department in which the Coast Guard is operating shall ensure compliance with the regulations issued under paragraph (2).

"(4) STATE OR LOCAL STANDARDS.—After the Administrator promulgates standards under this section, no State or political subdivision thereof may adopt or attempt to enforce any standard respecting emissions from tank vessels subject to regulation under paragraph (1) unless such standard is no less stringent than the standards promulgated under paragraph (1).

"(5) ENFORCEMENT.—Any standard established under paragraph (1)(A) shall be treated, for purposes of enforcement of this Act, as a standard under section 111 and any violation of such standard shall be treated as a violation of a requirement of section 111(e).

"(g) OZONE DESIGN VALUE STUDY.—The Administrator shall conduct a study of whether the methodology in use by the Environmental Protection Agency as of the date of the enactment of the Clean Air Act Amendments of 1990 for establishing a design value for ozone provides a reasonable indicator of the ozone air quality of ozone nonattainment areas. The Administrator shall obtain input from States, local subdivisions thereof, and others. The study shall be completed and a report submitted to Congress not later than 3 years after the date of the enactment of the Clean Air Act Amendments of 1990. The results of the study shall be subject to peer and public review before submitting it to Congress.

Intergovernmental relations. Reports.

Public information.

42 USC 7511c.

"SEC. 184. CONTROL OF INTERSTATE OZONE AIR POLLUTION.

State listing.

"(a) OZONE TRANSPORT REGIONS.—A single transport region for ozone (within the meaning of section 176A(a)), comprised of the States of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and the Consolidated Metropolitan Statistical Area that includes the District of Columbia, is hereby established by operation of law. The provisions of section 176A(a) (1) and (2) shall apply with respect to the transport region established under this section and any other transport region established for ozone, except to the extent inconsistent with the provisions of this section. The Administrator shall convene the commission required (under section 176A(b)) as a result of the establishment of such region within 6 months of the date of the enactment of the Clean Air Act Amendments of 1990.

"(b) PLAN PROVISIONS FOR STATES IN OZONE TRANSPORT REGIONS.—(1) In accordance with section 110, not later than 2 years after the date of the enactment of the Clean Air Act Amendments of 1990 (or 9 months after the subsequent inclusion of a State in a transport region established for ozone), each State included within a transport region established for ozone shall submit a State implementation plan or revision thereof to the Administrator which requires the following—

"(A) that each area in such State that is in an ozone transport region, and that is a metropolitan statistical area or part thereof with a population of 100,000 or more comply with the provisions of section 182(c)(2)(A) (pertaining to enhanced vehicle inspection and maintenance programs); and

"(B) implementation of reasonably available control technology with respect to all sources of volatile organic compounds in the State covered by a control techniques guideline issued before or after the date of the enactment of the Clean Air Act Amendments of 1990.

"(2) Within 3 years after the date of the enactment of the Clean Air Act Amendments of 1990, the Administrator shall complete a study identifying control measures capable of achieving emission reductions comparable to those achievable through vehicle refueling controls contained in section 182(b)(3), and such measures or such vehicle refueling controls shall be implemented in accordance with the provisions of this section. Notwithstanding other deadlines in this section, the applicable implementation plan shall be revised to reflect such measures within 1 year of completion of the study. For purposes of this section any stationary source that emits or has the potential to emit at least 50 tons per year of volatile organic compounds shall be considered a major stationary source and subject to the requirements which would be applicable to major stationary sources if the area were classified as a Moderate nonattainment area.

"(c) ADDITIONAL CONTROL MEASURES.—

"(1) RECOMMENDATIONS.—Upon petition of any State within a transport region established for ozone, and based on a majority vote of the Governors on the Commission (or their designees), the Commission may, after notice and opportunity for public comment, develop recommendations for additional control measures to be applied within all or a part of such transport region if the commission determines such measures are necessary to bring any area in such region into attainment by the dates provided by this subpart. The commission shall transmit such recommendations to the Administrator.

"(2) NOTICE AND REVIEW.—Whenever the Administrator receives recommendations prepared by a commission pursuant to paragraph (1) (the date of receipt of which shall hereinafter in this section be referred to as the 'receipt date'), the Administrator shall—

"(A) immediately publish in the Federal Register a notice stating that the recommendations are available and provide an opportunity for public hearing within 90 days beginning on the receipt date; and Federal Register, publication.

"(B) commence a review of the recommendations to determine whether the control measures in the recommendations are necessary to bring any area in such region into attainment by the dates provided by this subpart and are otherwise consistent with this Act.

"(3) CONSULTATION.—In undertaking the review required under paragraph (2)(B), the Administrator shall consult with members of the commission of the affected States and shall take into account the data, views, and comments received pursuant to paragraph (2)(A).

"(4) APPROVAL AND DISAPPROVAL.—Within 9 months after the receipt date, the Administrator shall (A) determine whether to approve, disapprove, or partially disapprove and partially approve the recommendations; (B) notify the commission in writing of such approval, disapproval, or partial disapproval; and (C) publish such determination in the Federal Register. If Federal Register, publication.

the Administrator disapproves or partially disapproves the recommendations, the Administrator shall specify—

"(i) why any disapproved additional control measures are not necessary to bring any area in such region into attainment by the dates provided by this subpart or are otherwise not consistent with the Act; and

"(ii) recommendations concerning equal or more effective actions that could be taken by the commission to conform the disapproved portion of the recommendations to the requirements of this section.

"(5) FINDING.—Upon approval or partial approval of recommendations submitted by a commission, the Administrator shall issue to each State which is included in the transport region and to which a requirement of the approved plan applies, a finding under section 110(k)(5) that the implementation plan for such State is inadequate to meet the requirements of section 110(a)(2)(D). Such finding shall require each such State to revise its implementation plan to include the approved additional control measures within one year after the finding is issued.

"(d) BEST AVAILABLE AIR QUALITY MONITORING AND MODELING.—For purposes of this section, not later than 6 months after the date of the enactment of the Clean Air Act Amendments of 1990, the Administrator shall promulgate criteria for purposes of determining the contribution of sources in one area to concentrations of ozone in another area which is a nonattainment area for ozone. Such criteria shall require that the best available air quality monitoring and modeling techniques be used for purposes of making such determinations.

42 USC 7511d.

"SEC. 185. ENFORCEMENT FOR SEVERE AND EXTREME OZONE NONATTAINMENT AREAS FOR FAILURE TO ATTAIN.

"(a) GENERAL RULE.—Each implementation plan revision required under section 182 (d) and (e) (relating to the attainment plan for Severe and Extreme ozone nonattainment areas) shall provide that, if the area to which such plan revision applies has failed to attain the national primary ambient air quality standard for ozone by the applicable attainment date, each major stationary source of VOCs located in the area shall, except as otherwise provided under subsection (c), pay a fee to the State as a penalty for such failure, computed in accordance with subsection (b), for each calendar year beginning after the attainment date, until the area is redesignated as an attainment area for ozone. Each such plan revision should include procedures for assessment and collection of such fees.

"(b) COMPUTATION OF FEE.—

"(1) FEE AMOUNT.—The fee shall equal $5,000, adjusted in accordance with paragraph (3), per ton of VOC emitted by the source during the calendar year in excess of 80 percent of the baseline amount, computed under paragraph (2).

"(2) BASELINE AMOUNT.—For purposes of this section, the baseline amount shall be computed, in accordance with such guidance as the Administrator may provide, as the lower of the amount of actual VOC emissions ('actuals') or VOC emissions allowed under the permit applicable to the source (or, if no such permit has been issued for the attainment year, the amount of VOC emissions allowed under the applicable implementation plan ('allowables')) during the attainment year. Notwithstanding the preceding sentence, the Administrator may issue guid-

ance authorizing the baseline amount to be determined in accordance with the lower of average actuals or average allowables, determined over a period of more than one calendar year. Such guidance may provide that such average calculation for a specific source may be used if that source's emissions are irregular, cyclical, or otherwise vary significantly from year to year.

"(3) ANNUAL ADJUSTMENT.—The fee amount under paragraph (1) shall be adjusted annually, beginning in the year beginning after the year of enactment, in accordance with section 502(b)(3)(B)(v) (relating to inflation adjustment).

"(c) EXCEPTION.—Notwithstanding any provision of this section, no source shall be required to pay any fee under subsection (a) with respect to emissions during any year that is treated as an Extension Year under section 181(a)(5).

"(d) FEE COLLECTION BY THE ADMINISTRATOR.—If the Administrator has found that the fee provisions of the implementation plan do not meet the requirements of this section, or if the Administrator makes a finding that the State is not administering and enforcing the fee required under this section, the Administrator shall, in addition to any other action authorized under this title, collect, in accordance with procedures promulgated by the Administrator, the unpaid fees required under subsection (a). If the Administrator makes such a finding under section 179(a)(4), the Administrator may collect fees for periods before the determination, plus interest computed in accordance with section 6621(a)(2) of the Internal Revenue Code of 1986 (relating to computation of interest on underpayment of Federal taxes), to the extent the Administrator finds such fees have not been paid to the State. The provisions of clauses (ii) through (iii) of section 502(b)(3)(C) (relating to penalties and use of the funds, respectively) shall apply with respect to fees collected under this subsection.

"(e) EXEMPTIONS FOR CERTAIN SMALL AREAS.—For areas with a total population under 200,000 which fail to attain the standard by the applicable attainment date, no sanction under this section or under any other provision of this Act shall apply if the area can demonstrate, consistent with guidance issued by the Administrator, that attainment in the area is prevented because of ozone or ozone precursors transported from other areas. The prohibition applies only in cases in which the area has met all requirements and implemented all measures applicable to the area under this Act.

"SEC. 185A. TRANSITIONAL AREAS. 42 USC 7511e.

"If an area designated as an ozone nonattainment area as of the date of enactment of the Clean Air Act Amendments of 1990 has not violated the national primary ambient air quality standard for ozone for the 36-month period commencing on January 1, 1987, and ending on December 31, 1989, the Administrator shall suspend the application of the requirements of this subpart to such area until December 31, 1991. By June 30, 1992, the Administrator shall determine by order, based on the area's design value as of the attainment date, whether the area attained such standard by December 31, 1991. If the Administrator determines that the area attained the standard, the Administrator shall require, as part of the order, the State to submit a maintenance plan for the area within 12 months of such determination. If the Administrator determines that the area failed to attain the standard, the Administrator

shall, by June 30, 1992, designate the area as nonattainment under section 107(d)(4).

42 USC 7511f. "SEC. 185B. NO_x AND VOC STUDY.

"The Administrator, in conjunction with the National Academy of Sciences, shall conduct a study on the role of ozone precursors in tropospheric ozone formation and control. The study shall examine the roles of NO_x and VOC emission reductions, the extent to which NO_x reductions may contribute (or be counterproductive) to achievement of attainment in different nonattainment areas, the sensitivity of ozone to the control of NO_x, the availability and extent of controls for NO_x, the role of biogenic VOC emissions, and the basic information required for air quality models. The study shall be completed and a proposed report made public for 30 days comment within 1 year of the date of the enactment of the Clean Air Act Amendments of 1990, and a final report shall be submitted to Congress within 15 months after such date of enactment. The Administrator shall utilize all available information and studies, as well as develop additional information, in conducting the study required by this section.".

Reports. Public information.

SEC. 104. ADDITIONAL PROVISIONS FOR CARBON MONOXIDE NONATTAINMENT AREAS.

Part D of title I of the Clean Air Act is amended by adding the following new subpart at the end:

"Subpart 3—Additional Provisions for Carbon Monoxide Nonattainment Areas

"Sec. 186. Classifications and attainment dates.
"Sec. 187. Plan submissions and requirements.

42 USC 7512. "SEC. 186. CLASSIFICATION AND ATTAINMENT DATES.

"(a) CLASSIFICATION BY OPERATION OF LAW AND ATTAINMENT DATES FOR NONATTAINMENT AREAS.—(1) Each area designated nonattainment for carbon monoxide pursuant to section 107(d) shall be classified at the time of such designation under table 1, by operation of law, as a Moderate Area or a Serious Area based on the design value for the area. The design value shall be calculated according to the interpretation methodology issued by the Administrator most recently before the date of the enactment of the Clean Air Act Amendments of 1990. For each area classified under this subsection, the primary standard attainment date for carbon monoxide shall be as expeditiously as practicable but not later than the date provided in table 1:

"TABLE 3

Area classification	Design value	Primary standard attainment date
Moderate	9.1–16.4 ppm	December 31, 1995
Serious	16.5 and above	December 31, 2000

"(2) At the time of publication of the notice required under section 107 (designating carbon monoxide nonattainment areas), the Administrator shall publish a notice announcing the classification of each such carbon monoxide nonattainment area. The provisions of

section 172(a)(1)(B) (relating to lack of notice-and-comment and judicial review) shall apply with respect to such classification.

"(3) If an area classified under paragraph (1), table 1, would have been classified in another category if the design value in the area were 5 percent greater or 5 percent less than the level on which such classification was based, the Administrator may, in the Administrator's discretion, within 90 days after the date of the enactment of the Clean Air Act Amendments of 1990 by the procedure required under paragraph (2), adjust the classification of the area. In making such adjustment, the Administrator may consider the number of exceedances of the national primary ambient air quality standard for carbon monoxide in the area, the level of pollution transport between the area and the other affected areas, and the mix of sources and air pollutants in the area. The Administrator may make the same adjustment for purposes of paragraphs (2), (3), (6), and (7) of section 187(a).

"(4) Upon application by any State, the Administrator may extend for 1 additional year (hereinafter in this subpart referred to as the 'Extension Year') the date specified in table 1 of subsection (a) if—

"(A) the State has complied with all requirements and commitments pertaining to the area in the applicable implementation plan, and

"(B) no more than one exceedance of the national ambient air quality standard level for carbon monoxide has occurred in the area in the year preceding the Extension Year.

No more than 2 one-year extensions may be issued under this paragraph for a single nonattainment area.

"(b) NEW DESIGNATIONS AND RECLASSIFICATIONS.—

"(1) NEW DESIGNATIONS TO NONATTAINMENT.—Any area that is designated attainment or unclassifiable for carbon monoxide under section 107(d)(4), and that is subsequently redesignated to nonattainment for carbon monoxide under section 107(d)(3), shall, at the time of the redesignation, be classified by operation of law in accordance with table 1 under subsections (a)(1) and (a)(4). Upon its classification, the area shall be subject to the same requirements under section 110, subpart 1 of this part, and this subpart that would have applied had the area been so classified at the time of the notice under subsection (a)(2), except that any absolute, fixed date applicable in connection with any such requirement is extended by operation of law by a period equal to the length of time between the date of the enactment of the Clean Air Act Amendments of 1990 and the date the area is classified.

"(2) RECLASSIFICATION OF MODERATE AREAS UPON FAILURE TO ATTAIN.—

"(A) GENERAL RULE.—Within 6 months following the applicable attainment date for a carbon monoxide nonattainment area, the Administrator shall determine, based on the area's design value as of the attainment date, whether the area has attained the standard by that date. Any Moderate Area that the Administrator finds has not attained the standard by that date shall be reclassified by operation of law in accordance with table 1 of subsection (a)(1) as a Serious Area.

"(B) PUBLICATION OF NOTICE.—The Administrator shall publish a notice in the Federal Register, no later than 6 months following the attainment date, identifying each

Federal Register, publication.

area that the Administrator has determined, under subparagraph (A), as having failed to attain and identifying the reclassification, if any, described under subparagraph (A).

"(c) REFERENCES TO TERMS.—Any reference in this subpart to a 'Moderate Area' or a 'Serious Area' shall be considered a reference to a Moderate Area or a Serious Area, respectively, as classified under this section.

Intergovernmental relations.
42 USC 7512a.

"SEC. 187. PLAN SUBMISSIONS AND REQUIREMENTS.

"(a) MODERATE AREAS.—Each State in which all or part of a Moderate Area is located shall, with respect to the Moderate Area (or portion thereof, to the extent specified in guidance of the Administrator issued before the date of the enactment of the Clean Air Act Amendments of 1990), submit to the Administrator the State implementation plan revisions (including the plan items) described under this subsection, within such periods as are prescribed under this subsection, except to the extent the State has made such submissions as of such date of enactment:

"(1) INVENTORY.—No later than 2 years from the date of the enactment of the Clean Air Act Amendments of 1990, the State shall submit a comprehensive, accurate, current inventory of actual emissions from all sources, as described in section 172(c)(3), in accordance with guidance provided by the Administrator.

"(2)(A) VEHICLE MILES TRAVELED.—No later than 2 years after the date of the enactment of the Clean Air Act Amendments of 1990, for areas with a design value above 12.7 ppm at the time of classification, the plan revision shall contain a forecast of vehicle miles traveled in the nonattainment area concerned for each year before the year in which the plan projects the national ambient air quality standard for carbon monoxide to be attained in the area. The forecast shall be based on guidance which shall be published by the Administrator, in consultation with the Secretary of Transportation, within 6 months after the date of the enactment of the Clean Air Act Amendments of 1990. The plan revision shall provide for annual updates of the forecasts to be submitted to the Administrator together with annual reports regarding the extent to which such forecasts proved to be accurate. Such annual reports shall contain estimates of actual vehicle miles traveled in each year for which a forecast was required.

Reports.

"(B) SPECIAL RULE FOR DENVER.—Within 2 years after the date of the enactment of the Clean Air Act Amendments of 1990, in the case of Denver, the State shall submit a revision that includes the transportation control measures as required in section 182(d)(1)(A) except that such revision shall be for the purpose of reducing CO emissions rather than volatile organic compound emissions. If the State fails to include any such measure, the implementation plan shall contain an explanation of why such measure was not adopted and what emissions reduction measure was adopted to provide a comparable reduction in emissions, or reasons why such reduction is not necessary to attain the national primary ambient air quality standard for carbon monoxide.

"(3) CONTINGENCY PROVISIONS.—No later than 2 years after the date of the enactment of the Clean Air Act Amendments of

1990, for areas with a design value above 12.7 ppm at the time of classification, the plan revision shall provide for the implementation of specific measures to be undertaken if any estimate of vehicle miles traveled in the area which is submitted in an annual report under paragraph (2) exceeds the number predicted in the most recent prior forecast or if the area fails to attain the national primary ambient air quality standard for carbon monoxide by the primary standard attainment date. Such measures shall be included in the plan revision as contingency measures to take effect without further action by the State or the Administrator if the prior forecast has been exceeded by an updated forecast or if the national standard is not attained by such deadline.

"(4) SAVINGS CLAUSE FOR VEHICLE INSPECTION AND MAINTENANCE PROVISIONS OF THE STATE IMPLEMENTATION PLAN.—Immediately after the date of the enactment of the Clean Air Act Amendments of 1990, for any Moderate Area (or, within the Administrator's discretion, portion thereof), the plan for which is of the type described in section 182(a)(2)(B) any provisions necessary to ensure that the applicable implementation plan includes the vehicle inspection and maintenance program described in section 182(a)(2)(B).

"(5) PERIODIC INVENTORY.—No later than September 30, 1995, and no later than the end of each 3 year period thereafter, until the area is redesignated to attainment, a revised inventory meeting the requirements of subsection (a)(1).

"(6) ENHANCED VEHICLE INSPECTION AND MAINTENANCE.—No later than 2 years after the date of the enactment of the Clean Air Act Amendments of 1990 in the case of Moderate Areas with a design value greater than 12.7 ppm at the time of classification, a revision that includes provisions for an enhanced vehicle inspection and maintenance program as required in section 182(c)(3) (concerning serious ozone nonattainment areas), except that such program shall be for the purpose of reducing carbon monoxide rather than hydrocarbon emissions.

"(7) ATTAINMENT DEMONSTRATION AND SPECIFIC ANNUAL EMISSION REDUCTIONS.—In the case of Moderate Areas with a design value greater than 12.7 ppm at the time of classification, no later than 2 years after the date of the enactment of the Clean Air Act Amendments of 1990, a revision to provide, and a demonstration that the plan as revised will provide, for attainment of the carbon monoxide NAAQS by the applicable attainment date and provisions for such specific annual emission reductions as are necessary to attain the standard by that date.

The Administrator may, in the Administrator's discretion, require States to submit a schedule for submitting any of the revisions or other items required under this subsection. In the case of Moderate Areas with a design value of 12.7 ppm or lower at the time of classification, the requirements of this subsection shall apply in lieu of any requirement that the State submit a demonstration that the applicable implementation plan provides for attainment of the carbon monoxide standard by the applicable attainment date.

"(b) SERIOUS AREAS.—

"(1) IN GENERAL.—Each State in which all or part of a Serious Area is located shall, with respect to the Serious Area, make the submissions (other than those required under subsection

(a)(1)(B)) applicable under subsection (a) to Moderate Areas with a design value of 12.7 ppm or greater at the time of classification, and shall also submit the revision and other items described under this subsection.

"(2) VEHICLE MILES TRAVELED.—Within 2 years after the date of the enactment of the Clean Air Act Amendments of 1990 the State shall submit a revision that includes the transportation control measures as required in section 182(d)(1) except that such revision shall be for the purpose of reducing CO emissions rather than volatile organic compound emissions. In the case of any such area (other than an area in New York State) which is a covered area (as defined in section 246(a)(2)(B)) for purposes of the Clean Fuel Fleet program under part C of title II, if the State fails to include any such measure, the implementation plan shall contain an explanation of why such measure was not adopted and what emissions reduction measure was adopted to provide a comparable reduction in emissions, or reasons why such reduction is not necessary to attain the national primary ambient air quality standard for carbon monoxide.

"(3) OXYGENATED GASOLINE.—(A) Within 2 years after the date of the enactment of the Clean Air Act Amendments of 1990, the State shall submit a revision to require that gasoline sold, supplied, offered for sale or supply, dispensed, transported or introduced into commerce in the larger of—

"(i) the Consolidated Metropolitan Statistical Area (as defined by the United States Office of Management and Budget) (CMSA) in which the area is located, or

"(ii) if the area is not located in a CMSA, the Metropolitan Statistical Area (as defined by the United States Office of Management and Budget) in which the area is located,

be blended, during the portion of the year in which the area is prone to high ambient concentrations of carbon monoxide (as determined by the Administrator), with fuels containing such level of oxygen as is necessary, in combination with other measures, to provide for attainment of the carbon monoxide national ambient air quality standard by the applicable attainment date and maintenance of the national ambient air quality standard thereafter in the area. The revision shall provide that such requirement shall take effect no later than October 1, 1993, and shall include a program for implementation and enforcement of the requirement consistent with guidance to be issued by the Administrator.

"(B) Notwithstanding subparagraph (A), the revision described in this paragraph shall not be required for an area if the State demonstrates to the satisfaction of the Administrator that the revision is not necessary to provide for attainment of the carbon monoxide national ambient air quality standard by the applicable attainment date and maintenance of the national ambient air quality standard thereafter in the area.

"(c) AREAS WITH SIGNIFICANT STATIONARY SOURCE EMISSIONS OF CO.—

"(1) SERIOUS AREAS.—In the case of Serious Areas in which stationary sources contribute significantly to carbon monoxide levels (as determined under rules issued by the Administrator), the State shall submit a plan revision within 2 years after the date of the enactment of the Clean Air Act Amendments of 1990, which provides that the term 'major stationary source'

includes (in addition to the sources described in section 302) any stationary source which emits, or has the potential to emit, 50 tons per year or more of carbon monoxide.

"(2) WAIVERS FOR CERTAIN AREAS.—The Administrator may, on a case-by-case basis, waive any requirements that pertain to transportation controls, inspection and maintenance, or oxygenated fuels where the Administrator determines by rule that mobile sources of carbon monoxide do not contribute significantly to carbon monoxide levels in the area.

"(3) GUIDELINES.—Within 6 months after the date of the enactment of the Clean Air Act Amendments of 1990, the Administrator shall issue guidelines for and rules determining whether stationary sources contribute significantly to carbon monoxide levels in an area.

"(d) CO MILESTONE.—

"(1) MILESTONE DEMONSTRATION.—By March 31, 1996, each State in which all or part of a Serious Area is located shall submit to the Administrator a demonstration that the area has achieved a reduction in emissions of CO equivalent to the total of the specific annual emission reductions required by December 31, 1995. Such reductions shall be referred to in this subsection as the milestone.

"(2) ADEQUACY OF DEMONSTRATION.—A demonstration under this paragraph shall be submitted in such form and manner, and shall contain such information and analysis, as the Administrator shall require. The Administrator shall determine whether or not a State's demonstration is adequate within 90 days after the Administrator's receipt of a demonstration which contains the information and analysis required by the Administrator.

"(3) FAILURE TO MEET EMISSION REDUCTION MILESTONE.—If a State fails to submit a demonstration under paragraph (1) within the required period, or if the Administrator notifies the State that the State has not met the milestone, the State shall, within 9 months after such a failure or notification, submit a plan revision to implement an economic incentive and transportation control program as described in section 182(g)(4). Such revision shall be sufficient to achieve the specific annual reductions in carbon monoxide emissions set forth in the plan by the attainment date.

"(e) MULTI-STATE CO NONATTAINMENT AREAS.—

"(1) COORDINATION AMONG STATES.—Each State in which there is located a portion of a single nonattainment area for carbon monoxide which covers more than one State ('multi-State nonattainment area') shall take all reasonable steps to coordinate, substantively and procedurally, the revisions and implementation of State implementation plans applicable to the nonattainment area concerned. The Administrator may not approve any revision of a State implementation plan submitted under this part for a State in which part of a multi-State nonattainment area is located if the plan revision for that State fails to comply with the requirements of this subsection.

"(2) FAILURE TO DEMONSTRATE ATTAINMENT.—If any State in which there is located a portion of a multi-State nonattainment area fails to provide a demonstration of attainment of the national ambient air quality standard for carbon monoxide in that portion within the period required under this part the

State may petition the Administrator to make a finding that the State would have been able to make such demonstration but for the failure of one or more other States in which other portions of the area are located to commit to the implementation of all measures required under section 187 (relating to plan submissions for carbon monoxide nonattainment areas). If the Administrator makes such finding, in the portion of the nonattainment area within the State submitting such petition, no sanction shall be imposed under section 179 or under any other provision of this Act, by reason of the failure to make such demonstration.

"(f) RECLASSIFIED AREAS.—Each State containing a carbon monoxide nonattainment area reclassified under section 186(b)(2) shall meet the requirements of subsection (b) of this section, as may be applicable to the area as reclassified, according to the schedules prescribed in connection with such requirements, except that the Administrator may adjust any applicable deadlines (other than the attainment date) where such deadlines are shown to be infeasible.

"(g) FAILURE OF SERIOUS AREA TO ATTAIN STANDARD.—If the Administrator determines under section 186(b)(2) that the national primary ambient air quality standard for carbon monoxide has not been attained in a Serious Area by the applicable attainment date, the State shall submit a plan revision for the area within 9 months after the date of such determination. The plan revision shall provide that a program of incentives and requirements as described in section 182(g)(4) shall be applicable in the area, and such program, in combination with other elements of the revised plan, shall be adequate to reduce the total tonnage of emissions of carbon monoxide in the area by at least 5 percent per year in each year after approval of the plan revision and before attainment of the national primary ambient air quality standard for carbon monoxide.".

SEC. 105. ADDITIONAL PROVISIONS FOR PARTICULATE MATTER (PM-10) NONATTAINMENT AREAS.

(a) PM-10 NONATTAINMENT AREAS.—Part D of title I of the Clean Air Act is amended by adding the following new subpart after subpart 3:

"Subpart 4—Additional Provisions for Particulate Matter Nonattainment Areas

"Sec. 188. Classifications and attainment dates.
"Sec. 189. Plan provisions and schedules for plan submissions.
"Sec. 190. Issuance of guidance.

42 USC 7513.

"SEC. 188. CLASSIFICATIONS AND ATTAINMENT DATES.

"(a) INITIAL CLASSIFICATIONS.—Every area designated nonattainment for PM-10 pursuant to section 107(d) shall be classified at the time of such designation, by operation of law, as a moderate PM-10 nonattainment area (also referred to in this subpart as a 'Moderate Area') at the time of such designation. At the time of publication of the notice under section 107(d)(4) (relating to area designations) for each PM-10 nonattainment area, the Administrator shall publish a notice announcing the classification of such area. The provisions of section 172(a)(1)(B) (relating to lack of notice-and-comment and judicial review) shall apply with respect to such classification.

"(b) RECLASSIFICATION AS SERIOUS.—

"(1) RECLASSIFICATION BEFORE ATTAINMENT DATE.—The Administrator may reclassify as a Serious PM-10 nonattainment area (identified in this subpart also as a 'Serious Area') any area that the Administrator determines cannot practicably attain the national ambient air quality standard for PM-10 by the attainment date (as prescribed in subsection (c)) for Moderate Areas. The Administrator shall reclassify appropriate areas as Serious by the following dates:

"(A) For areas designated nonattainment for PM-10 under section 107(d)(4), the Administrator shall propose to reclassify appropriate areas by June 30, 1991, and take final action by December 31, 1991.

"(B) For areas subsequently designated nonattainment, the Administrator shall reclassify appropriate areas within 18 months after the required date for the State's submission of a SIP for the Moderate Area.

"(2) RECLASSIFICATION UPON FAILURE TO ATTAIN.—Within 6 months following the applicable attainment date for a PM-10 nonattainment area, the Administrator shall determine whether the area attained the standard by that date. If the Administrator finds that any Moderate Area is not in attainment after the applicable attainment date—

"(A) the area shall be reclassified by operation of law as a Serious Area; and

"(B) the Administrator shall publish a notice in the Federal Register no later than 6 months following the attainment date, identifying the area as having failed to attain and identifying the reclassification described under subparagraph (A). Federal Register, publication.

"(c) ATTAINMENT DATES.—Except as provided under subsection (d), the attainment dates for PM-10 nonattainment areas shall be as follows:

"(1) MODERATE AREAS.—For a Moderate Area, the attainment date shall be as expeditiously as practicable but no later than the end of the sixth calendar year after the area's designation as nonattainment, except that, for areas designated nonattainment for PM-10 under section 107(d)(4), the attainment date shall not extend beyond December 31, 1994.

"(2) SERIOUS AREAS.—For a Serious Area, the attainment date shall be as expeditiously as practicable but no later than the end of the tenth calendar year beginning after the area's designation as nonattainment, except that, for areas designated nonattainment for PM-10 under section 107(d)(4), the date shall not extend beyond December 31, 2001.

"(d) EXTENSION OF ATTAINMENT DATE FOR MODERATE AREAS.—Upon application by any State, the Administrator may extend for 1 additional year (hereinafter referred to as the 'Extension Year') the date specified in paragraph (c)(1) if—

"(1) the State has complied with all requirements and commitments pertaining to the area in the applicable implementation plan; and

"(2) no more than one exceedance of the 24-hour national ambient air quality standard level for PM-10 has occurred in the area in the year preceding the Extension Year, and the annual mean concentration of PM-10 in the area for such year is less than or equal to the standard level.

No more than 2 one-year extensions may be issued under the subsection for a single nonattainment area.

"(e) EXTENSION OF ATTAINMENT DATE FOR SERIOUS AREAS.—Upon application by any State, the Administrator may extend the attainment date for a Serious Area beyond the date specified under subsection (c), if attainment by the date established under subsection (c) would be impracticable, the State has complied with all requirements and commitments pertaining to that area in the implementation plan, and the State demonstrates to the satisfaction of the Administrator that the plan for that area includes the most stringent measures that are included in the implementation plan of any State or are achieved in practice in any State, and can feasibly be implemented in the area. At the time of such application, the State must submit a revision to the implementation plan that includes a demonstration of attainment by the most expeditious alternative date practicable. In determining whether to grant an extension, and the appropriate length of time for any such extension, the Administrator may consider the nature and extent of nonattainment, the types and numbers of sources or other emitting activities in the area (including the influence of uncontrollable natural sources and transboundary emissions from foreign countries), the population exposed to concentrations in excess of the standard, the presence and concentration of potentially toxic substances in the mix of particulate emissions in the area, and the technological and economic feasibility of various control measures. The Administrator may not approve an extension until the State submits an attainment demonstration for the area. The Administrator may grant at most one such extension for an area, of no more than 5 years.

"(f) WAIVERS FOR CERTAIN AREAS.—The Administrator may, on a case-by-case basis, waive any requirement applicable to any Serious Area under this subpart where the Administrator determines that anthropogenic sources of PM-10 do not contribute significantly to the violation of the PM-10 standard in the area. The Administrator may also waive a specific date for attainment of the standard where the Administrator determines that nonanthropogenic sources of PM-10 contribute significantly to the violation of the PM-10 standard in the area.

42 USC 7513a.

"SEC. 189. PLAN PROVISIONS AND SCHEDULES FOR PLAN SUBMISSIONS.

"(a) MODERATE AREAS.—

"(1) PLAN PROVISIONS.—Each State in which all or part of a Moderate Area is located shall submit, according to the applicable schedule under paragraph (2), an implementation plan that includes each of the following:

"(A) For the purpose of meeting the requirements of section 172(c)(5), a permit program providing that permits meeting the requirements of section 173 are required for the construction and operation of new and modified major stationary sources of PM-10.

"(B) Either (i) a demonstration (including air quality modeling) that the plan will provide for attainment by the applicable attainment date; or (ii) a demonstration that attainment by such date is impracticable.

"(C) Provisions to assure that reasonably available control measures for the control of PM-10 shall be implemented no later than December 10, 1993, or 4 years after

designation in the case of an area classified as moderate after the date of the enactment of the Clean Air Act Amendments of 1990.

"(2) SCHEDULE FOR PLAN SUBMISSIONS.—A State shall submit the plan required under subparagraph (1) no later than the following:

"(A) Within 1 year of the date of the enactment of the Clean Air Act Amendments of 1990, for areas designated nonattainment under section 107(d)(4), except that the provision required under subparagraph (1)(A) shall be submitted no later than June 30, 1992.

"(B) 18 months after the designation as nonattainment, for those areas designated nonattainment after the designations prescribed under section 107(d)(4).

"(b) SERIOUS AREAS.—

"(1) PLAN PROVISIONS.—In addition to the provisions submitted to meet the requirements of paragraph (a)(1) (relating to Moderate Areas), each State in which all or part of a Serious Area is located shall submit an implementation plan for such area that includes each of the following:

"(A) A demonstration (including air quality modeling)—

"(i) that the plan provides for attainment of the PM-10 national ambient air quality standard by the applicable attainment date, or

"(ii) for any area for which the State is seeking, pursuant to section 188(e), an extension of the attainment date beyond the date set forth in section 188(c), that attainment by that date would be impracticable, and that the plan provides for attainment by the most expeditious alternative date practicable.

"(B) Provisions to assure that the best available control measures for the control of PM-10 shall be implemented no later than 4 years after the date the area is classified (or reclassified) as a Serious Area.

"(2) SCHEDULE FOR PLAN SUBMISSIONS.—A State shall submit the demonstration required for an area under paragraph (1)(A) no later than 4 years after reclassification of the area to Serious, except that for areas reclassified under section 188(b)(2), the State shall submit the attainment demonstration within 18 months after reclassification to Serious. A State shall submit the provisions described under paragraph (1)(B) no later than 18 months after reclassification of the area as a Serious Area.

"(3) MAJOR SOURCES.—For any Serious Area, the terms 'major source' and 'major stationary source' include any stationary source or group of stationary sources located within a contiguous area and under common control that emits, or has the potential to emit, at least 70 tons per year of PM-10.

"(c) MILESTONES.—(1) Plan revisions demonstrating attainment submitted to the Administrator for approval under this subpart shall contain quantitative milestones which are to be achieved every 3 years until the area is redesignated attainment and which demonstrate reasonable further progress, as defined in section 171(1), toward attainment by the applicable date.

"(2) Not later than 90 days after the date on which a milestone applicable to the area occurs, each State in which all or part of such area is located shall submit to the Administrator a demonstration that all measures in the plan approved under this section have been

implemented and that the milestone has been met. A demonstration under this subsection shall be submitted in such form and manner, and shall contain such information and analysis, as the Administrator shall require. The Administrator shall determine whether or not a State's demonstration under this subsection is adequate within 90 days after the Administrator's receipt of a demonstration which contains the information and analysis required by the Administrator.

"(3) If a State fails to submit a demonstration under paragraph (2) with respect to a milestone within the required period or if the Administrator determines that the area has not met any applicable milestone, the Administrator shall require the State, within 9 months after such failure or determination to submit a plan revision that assures that the State will achieve the next milestone (or attain the national ambient air quality standard for PM-10, if there is no next milestone) by the applicable date.

"(d) FAILURE TO ATTAIN.—In the case of a Serious PM-10 nonattainment area in which the PM-10 standard is not attained by the applicable attainment date, the State in which such area is located shall, after notice and opportunity for public comment, submit within 12 months after the applicable attainment date, plan revisions which provide for attainment of the PM-10 air quality standard and, from the date of such submission until attainment, for an annual reduction in PM-10 or PM-10 precursor emissions within the area of not less than 5 percent of the amount of such emissions as reported in the most recent inventory prepared for such area.

"(e) PM-10 PRECURSORS.—The control requirements applicable under plans in effect under this part for major stationary sources of PM-10 shall also apply to major stationary sources of PM-10 precursors, except where the Administrator determines that such sources do not contribute significantly to PM-10 levels which exceed the standard in the area. The Administrator shall issue guidelines regarding the application of the preceding sentence.

42 USC 7513b.

"SEC. 190. ISSUANCE OF RACM AND BACM GUIDANCE.

"The Administrator shall issue, in the same manner and according to the same procedure as guidance is issued under section 108(c), technical guidance on reasonably available control measures and best available control measures for urban fugitive dust, and emissions from residential wood combustion (including curtailments and exemptions from such curtailments) and prescribed silvicultural and agricultural burning, no later than 18 months following the date of the enactment of the Clean Air Act Amendments of 1990. The Administrator shall also examine other categories of sources contributing to nonattainment of the PM-10 standard, and determine whether additional guidance on reasonably available control measures and best available control measures is needed, and issue any such guidance no later than 3 years after the date of the enactment of the Clean Air Act Amendments of 1990. In issuing guidelines and making determinations under this section, the Administrator (in consultation with the State) shall take into account emission reductions achieved, or expected to be achieved, under title IV and other provisions of this Act.".

(b) PM-10 INCREMENTS IN PSD AREAS.—Section 166 of the Clean Air Act (42 U.S.C. 7476) is amended by adding the following new subsection at the end:

"(f) PM-10 INCREMENTS.—The Administrator is authorized to substitute, for the maximum allowable increases in particulate matter specified in section 163(b) and section 165(d)(2)(C)(iv), maximum allowable increases in particulate matter with an aerodynamic diameter smaller than or equal to 10 micrometers. Such substituted maximum allowable increases shall be of equal stringency in effect as those specified in the provisions for which they are substituted. Until the Administrator promulgates regulations under the authority of this subsection, the current maximum allowable increases in concentrations of particulate matter shall remain in effect.".

SEC. 106. ADDITIONAL PROVISIONS FOR AREAS DESIGNATED NONATTAINMENT FOR SULFUR OXIDES, NITROGEN DIOXIDE, AND LEAD.

Part D of title I of the Clean Air Act is amended by adding a new subpart after subpart 4 as follows:

"Subpart 5--Additional Provisions for Areas Designated Nonattainment for Sulfur Oxides, Nitrogen Dioxide, or Lead

"Sec. 191. Plan submission deadlines.
"Sec. 192. Attainment dates.

"SEC. 191. PLAN SUBMISSION DEADLINES.

Intergovernmental relations.
42 USC 7514.

"(a) SUBMISSION.—Any State containing an area designated or redesignated under section 107(d) as nonattainment with respect to the national primary ambient air quality standards for sulfur oxides, nitrogen dioxide, or lead subsequent to the date of the enactment of the Clean Air Act Amendments of 1990 shall submit to the Administrator, within 18 months of the designation, an applicable implementation plan meeting the requirements of this part.

"(b) STATES LACKING FULLY APPROVED STATE IMPLEMENTATION PLANS.—Any State containing an area designated nonattainment with respect to national primary ambient air quality standards for sulfur oxides or nitrogen dioxide under section 107(d)(1)(C)(i), but lacking a fully approved implementation plan complying with the requirements of this Act (including part D) as in effect immediately before the date of the enactment of the Clean Air Act Amendments of 1990, shall submit to the Administrator, within 18 months of the date of the enactment of the Clean Air Act Amendments of 1990, an implementation plan meeting the requirements of subpart 1 (except as otherwise prescribed by section 192).

"SEC. 192. ATTAINMENT DATES.

42 USC 7514a.

"(a) PLANS UNDER SECTION 191(a).—Implementation plans required under section 191(a) shall provide for attainment of the relevant primary standard as expeditiously as practicable but no later than 5 years from the date of the nonattainment designation.

"(b) PLANS UNDER SECTION 191(b).—Implementation plans required under section 191(b) shall provide for attainment of the relevant primary national ambient air quality standard within 5 years after the date of the enactment of the Clean Air Act Amendments of 1990.

"(c) INADEQUATE PLANS.—Implementation plans for nonattainment areas for sulfur oxides or nitrogen dioxide with plans that were approved by the Administrator before the date of the enact-

ment of the Clean Air Act Amendments of 1990 but, subsequent to such approval, were found by the Administrator to be substantially inadequate, shall provide for attainment of the relevant primary standard within 5 years from the date of such finding.".

SEC. 107. PROVISIONS RELATED TO INDIAN TRIBES.

(a) DEFINITION OF AIR POLLUTION CONTROL AGENCY.—Section 302(b) of the Clean Air Act (42 U.S.C. 7602(b)) is amended by—

(1) deleting "or" at the end of paragraph (3);

(2) striking the semicolons at the end of paragraphs (1), (2), and (3) and inserting periods at the end of each such paragraph; and

(3) adding the following new paragraph after paragraph (4):

"(5) An agency of an Indian tribe.".

(b) DEFINITION OF INDIAN TRIBE.—Section 302 of the Clean Air Act (42 U.S.C. 7602) is amended by adding new subsection (r) to read as follows:

"(r) INDIAN TRIBE.—The term 'Indian tribe' means any Indian tribe, band, nation, or other organized group or community, including any Alaska Native village, which is Federally recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians.".

(c) SIPS.—Section 110 of the Clean Air Act (42 U.S.C. 7410) is amended by adding the following new subsection after subsection (n):

"(o) INDIAN TRIBES.—If an Indian tribe submits an implementation plan to the Administrator pursuant to section 301(d), the plan shall be reviewed in accordance with the provisions for review set forth in this section for State plans, except as otherwise provided by regulation promulgated pursuant to section 301(d)(2). When such plan becomes effective in accordance with the regulations promulgated under section 301(d), the plan shall become applicable to all areas (except as expressly provided otherwise in the plan) located within the exterior boundaries of the reservation, notwithstanding the issuance of any patent and including rights-of-way running through the reservation.".

Inventions and patents.
Rights-of-way.

(d) TRIBAL AUTHORITY.—Section 301 of the Clean Air Act (42 U.S.C. 7601) is amended by adding at the end thereof the following new subsection:

"(d) TRIBAL AUTHORITY.—(1) Subject to the provisions of paragraph (2), the Administrator—

"(A) is authorized to treat Indian tribes as States under this Act, except for purposes of the requirement that makes available for application by each State no less than one-half of 1 percent of annual appropriations under section 105; and

"(B) may provide any such Indian tribe grant and contract assistance to carry out functions provided by this Act.

Regulations.

"(2) The Administrator shall promulgate regulations within 18 months after the date of the enactment of the Clean Air Act Amendments of 1990, specifying those provisions of this Act for which it is appropriate to treat Indian tribes as States. Such treatment shall be authorized only if—

"(A) the Indian tribe has a governing body carrying out substantial governmental duties and powers;

"(B) the functions to be exercised by the Indian tribe pertain to the management and protection of air resources within the

exterior boundaries of the reservation or other areas within the tribe's jurisdiction; and

"(C) the Indian tribe is reasonably expected to be capable, in the judgment of the Administrator, of carrying out the functions to be exercised in a manner consistent with the terms and purposes of this Act and all applicable regulations.

"(3) The Administrator may promulgate regulations which establish the elements of tribal implementation plans and procedures for approval or disapproval of tribal implementation plans and portions thereof.

"(4) In any case in which the Administrator determines that the treatment of Indian tribes as identical to States is inappropriate or administratively infeasible, the Administrator may provide, by regulation, other means by which the Administrator will directly administer such provisions so as to achieve the appropriate purpose.

"(5) Until such time as the Administrator promulgates regulations pursuant to this subsection, the Administrator may continue to provide financial assistance to eligible Indian tribes under section 105.".

SEC. 108. MISCELLANEOUS GUIDANCE.

(a) TRANSPORTATION PLANNING GUIDANCE.—Section 108(e) of the Clean Air Act is amended by deleting the first sentence and inserting in lieu thereof the following: "The Administrator shall, after consultation with the Secretary of Transportation, and after providing public notice and opportunity for comment, and with State and local officials, within nine months after enactment of the Clean Air Act Amendments of 1989 and periodically thereafter as necessary to maintain a continuous transportation-air quality planning process, update the June 1978 Transportation-Air Quality Planning Guidelines and publish guidance on the development and implementation of transportation and other measures necessary to demonstrate and maintain attainment of national ambient air quality standards.". 42 USC 7408.

(b) TRANSPORTATION CONTROL MEASURES.—Section 108(f)(1) of the Clean Air Act is amended by deleting all after "(f)" through the end of subparagraph (A) and inserting in lieu thereof the following:

"(1) The Administrator shall publish and make available to appropriate Federal, State, and local environmental and transportation agencies not later than one year after enactment of the Clean Air Act Amendments of 1990, and from time to time thereafter— Public information.

"(A) information prepared, as appropriate, in consultation with the Secretary of Transportation, and after providing public notice and opportunity for comment, regarding the formulation and emission reduction potential of transportation control measures related to criteria pollutants and their precursors, including, but not limited to—

"(i) programs for improved public transit;

"(ii) restriction of certain roads or lanes to, or construction of such roads or lanes for use by, passenger buses or high occupancy vehicles;

"(iii) employer-based transportation management plans, including incentives;

"(iv) trip-reduction ordinances;

"(v) traffic flow improvement programs that achieve emission reductions;

"(vi) fringe and transportation corridor parking facilities serving multiple occupancy vehicle programs or transit service;

"(vii) programs to limit or restrict vehicle use in downtown areas or other areas of emission concentration particularly during periods of peak use;

"(viii) programs for the provision of all forms of high-occupancy, shared-ride services;

"(ix) programs to limit portions of road surfaces or certain sections of the metropolitan area to the use of non-motorized vehicles or pedestrian use, both as to time and place;

"(x) programs for secure bicycle storage facilities and other facilities, including bicycle lanes, for the convenience and protection of bicyclists, in both public and private areas;

"(xi) programs to control extended idling of vehicles;

"(xii) programs to reduce motor vehicle emissions, consistent with title II, which are caused by extreme cold start conditions;

"(xiii) employer-sponsored programs to permit flexible work schedules;

"(xiv) programs and ordinances to facilitate non-automobile travel, provision and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts of a locality, including programs and ordinances applicable to new shopping centers, special events, and other centers of vehicle activity;

"(xv) programs for new construction and major reconstructions of paths, tracks or areas solely for the use by pedestrian or other non-motorized means of transportation when economically feasible and in the public interest. For purposes of this clause, the Administrator shall also consult with the Secretary of the Interior; and

"(xvi) program to encourage the voluntary removal from use and the marketplace of pre-1980 model year light duty vehicles and pre-1980 model light duty trucks.".

(c) RACT/BACT/LAER CLEARINGHOUSE.—Section 108 of the Clean Air Act (42 U.S.C. 7408) is amended by adding the following at the end thereof:

"(h) RACT/BACT/LAER CLEARINGHOUSE.—The Administrator shall make information regarding emission control technology available to the States and to the general public through a central database. Such information shall include all control technology information received pursuant to State plan provisions requiring permits for sources, including operating permits for existing sources.".

(d) STATE REPORTS ON EMISSIONS-RELATED DATA.—Section 110 of the Clean Air Act (42 U.S.C. 7410) is amended by adding the following new subsection after subsection (o):

"(p) REPORTS.—Any State shall submit, according to such schedule as the Administrator may prescribe, such reports as the Administrator may require relating to emission reductions, vehicle miles traveled, congestion levels, and any other information the Administrator may deem necessary to assess the development effectiveness,

need for revision, or implementation of any plan or plan revision required under this Act.".

(e) NEW SOURCE STANDARDS OF PERFORMANCE.—(1) Section 111(b)(1)(B) of the Clean Air Act (42 U.S.C. 7411(b)(1)(B)) is amended as follows:

(A) Strike "120 days" and insert "one year".

(B) Strike "90 days" and insert "one year".

(C) Strike "four years" and insert "8 years".

(D) Immediately before the sentence beginning "Standards of performance or revisions thereof" insert "Notwithstanding the requirements of the previous sentence, the Administrator need not review any such standard if the Administrator determines that such review is not appropriate in light of readily available information on the efficacy of such standard.".

(E) Add the following at the end: "When implementation and enforcement of any requirement of this Act indicate that emission limitations and percent reductions beyond those required by the standards promulgated under this section are achieved in practice, the Administrator shall, when revising standards promulgated under this section, consider the emission limitations and percent reductions achieved in practice.".

(2) Section 111(f)(1) of the Clean Air Act (42 U.S.C. 7411(f)(1)) is amended to read as follows:

"(1) For those categories of major stationary sources that the Administrator listed under subsection (b)(1)(A) before the date of the enactment of the Clean Air Act Amendments of 1990 and for which regulations had not been proposed by the Administrator by such date, the Administrator shall— Regulations.

"(A) propose regulations establishing standards of performance for at least 25 percent of such categories of sources within 2 years after the date of the enactment of the Clean Air Act Amendments of 1990;

"(B) propose regulations establishing standards of performance for at least 50 percent of such categories of sources within 4 years after the date of the enactment of the Clean Air Act Amendments of 1990; and

"(C) propose regulations for the remaining categories of sources within 6 years after the date of the enactment of the Clean Air Act Amendments of 1990.".

(f) SAVINGS CLAUSE.—Section 111(a)(3) of the Clean Air Act (42 U.S.C. 7411(f)(1)) is amended by adding at the end: "Nothing in title II of this Act relating to nonroad engines shall be construed to apply to stationary internal combustion engines.".

(g) REGULATION OF EXISTING SOURCES.—Section 111(d)(1)(A)(i) of the Clean Air Act (42 U.S.C. 7411(d)(1)(A)(i)) is amended by striking "or 112(b)(1)(A)" and inserting "or emitted from a source category which is regulated under section 112".

(h) CONSULTATION.—The penultimate sentence of section 121 of the Clean Air Act (42 U.S.C. 7421) is amended to read as follows: "The Administrator shall update as necessary the original regulations required and promulgated under this section (as in effect immediately before the date of the enactment of the Clean Air Act Amendments of 1990) to ensure adequate consultation.". Regulations.

(i) DELEGATION.—The second sentence of section 301(a)(1) of the Clean Air Act (42 U.S.C. 7601(a)(1)) is amended by inserting "subject to section 307(d)" immediately following "regulations".

(j) DEFINITIONS.—Section 302 of the Clean Air Act (42 U.S.C. 7602) is amended as follows:

(1) Insert the following new subsections after subsection (r):

"(s) VOC.—The term 'VOC' means volatile organic compound, as defined by the Administrator.

"(t) PM-10.—The term 'PM-10' means particulate matter with an aerodynamic diameter less than or equal to a nominal ten micrometers, as measured by such method as the Administrator may determine.

"(u) NAAQS AND CTG.—The term 'NAAQS' means national ambient air quality standard. The term 'CTG' means a Control Technique Guideline published by the Administrator under section 108.

"(v) NO_x.—The term 'NO_x' means oxides of nitrogen.

"(w) CO.—The term 'CO' means carbon monoxide.

"(x) SMALL SOURCE.—The term 'small source' means a source that emits less than 100 tons of regulated pollutants per year, or any class of persons that the Administrator determines, through regulation, generally lack technical ability or knowledge regarding control of air pollution.

"(y) FEDERAL IMPLEMENTATION PLAN.—The term 'Federal implementation plan' means a plan (or portion thereof) promulgated by the Administrator to fill all or a portion of a gap or otherwise correct all or a portion of an inadequacy in a State implementation plan, and which includes enforceable emission limitations or other control measures, means or techniques (including economic incentives, such as marketable permits or auctions of emissions allowances), and provides for attainment of the relevant national ambient air quality standard.".

(2) Section 302(g) of the Clean Air Act (42 U.S.C. 7602(g)) is amended by adding the following at the end: "Such term includes any precursors to the formation of any air pollutant, to the extent the Administrator has identified such precursor or precursors for the particular purpose for which the term 'air pollutant' is used.".

(k) POLLUTION PREVENTION.—Section 101 of the Clean Air Act (42 U.S.C. 7401) is amended as follows:

(1) Amend subsection (a)(3) to read as follows:

"(3) that air pollution prevention (that is, the reduction or elimination, through any measures, of the amount of pollutants produced or created at the source) and air pollution control at its source is the primary responsibility of States and local governments; and".

(2) Amend subsection (b)(4) by inserting "prevention and" immediately after "pollution".

(3) Add a new subsection (c) to read as follows:

"(c) POLLUTION PREVENTION.—A primary goal of this Act is to encourage or otherwise promote reasonable Federal, State, and local governmental actions, consistent with the provisions of this Act, for pollution prevention.".

(l) Part D of title I of the Clean Air Act is amended by adding a new subpart after subpart 5 as follows:

"Subpart 6—Savings Provisions

"Sec. 193. General savings clause.

"SEC. 193. GENERAL SAVINGS CLAUSE. 42 USC 7515.

"Each regulation, standard, rule, notice, order and guidance promulgated or issued by the Administrator under this Act, as in effect before the date of the enactment of the Clean Air Act Amendments of 1990 shall remain in effect according to its terms, except to the extent otherwise provided under this Act, inconsistent with any provision of this Act, or revised by the Administrator. No control requirement in effect, or required to be adopted by an order, settlement agreement, or plan in effect before the date of the enactment of the Clean Air Act Amendments of 1990 in any area which is a nonattainment area for any air pollutant may be modified after such enactment in any manner unless the modification insures equivalent or greater emission reductions of such air pollutant.".

(m) BOUNDARY CHANGES.—Section 162(a) of the Clean Air Act (42 U.S.C. 7472(a)) is amended by adding at the end thereof the following: "The extent of the areas designated as Class I under this section shall conform to any changes in the boundaries of such areas which have occurred subsequent to the date of the enactment of the Clean Air Act Amendments of 1977, or which may occur subsequent to the date of the enactment of the Clean Air Act Amendments of 1990.".

(n) BOUNDARIES.—Section 164(a) of the Clean Air Act (42 U.S.C. 7474(a)) is amended by inserting immediately before the sentence beginning "Any area (other than an area referred to in paragraph (1) or (2))" the following: "The extent of the areas referred to in paragraph (1) and (2) shall conform to any changes in the boundaries of such areas which have occurred subsequent to the date of the enactment of the Clean Air Act Amendments of 1977, or which may occur subsequent to the date of the enactment of the Clean Air Act Amendments of 1990.".

(o) ASSESSMENTS.—Section 108 of the Clean Air Act (42 U.S.C. 7408) is amended by adding at the end thereof a new subsection (g) to read as follows:

"(g) ASSESSMENT OF RISKS TO ECOSYSTEMS.—The Administrator may assess the risks to ecosystems from exposure to criteria air pollutants (as identified by the Administrator in the Administrator's sole discretion).".

(p) PUBLIC PARTICIPATION.—Section 307 of the Clean Air Act (42 U.S.C. 7607) is amended by adding the following after subsection (g):

"(h) PUBLIC PARTICIPATION.—It is the intent of Congress that, consistent with the policy of the Administrative Procedures Act, the Administrator in promulgating any regulation under this Act, including a regulation subject to a deadline, shall ensure a reasonable period for public participation of at least 30 days, except as otherwise expressly provided in section 107(d), 172(a), 181(a) and (b), and 186(a) and (b).". Regulations.

(q) ETHICS, FINANCIAL DISCLOSURE, AND CONFLICTS OF INTEREST.—Section 318 of the Clean Air Act (42 U.S.C. 7618) is repealed.". Repeal.

SEC. 109. INTERSTATE POLLUTION.

(a) AMENDMENTS TO SECTION 126.—Section 126 of the Clean Air Act (42 U.S.C. 7426) is amended as follows:

(1) In subsection (b)—

(A) in the first sentence, following "major source", insert "or group of stationary sources"; and

(B) strike "110(a)(2)(E)(i)" and insert in lieu thereof "110(a)(2)(D)(ii) or this section".

(2) In subsection (c)—

(A) in the first sentence, following the words "violation of", insert "this section and"; and

(B) strike "110(a)(2)(E)(i)" wherever it appears and insert in lieu thereof "110(a)(2)(D)(ii) or this section".

(b) AMENDMENT TO SECTION 302.—Section 302(h) of the Clean Air Act (42 U.S.C. 7602(h)) is amended by inserting before the period ", whether caused by transformation, conversion, or combination with other air pollutants".

SEC. 110. CONFORMING AMENDMENTS.

The Clean Air Act is amended as follows—

(1) Strike, in section 161 (42 U.S.C. 7471), "identified pursuant to section 107(d)(1)(D) or (E)" and insert "designated pursuant to section 107 as attainment or unclassifiable".

(2) Strike, in section 162(b) (42 U.S.C. 7472(b)), "identified pursuant to section 107(d)(1)(D) or (E)" and insert "designated pursuant to section 107(d) as attainment or unclassifiable";

(3) Strike, in section 167 (42 U.S.C. 7477), the reference to "included in the list promulgated pursuant to paragraph (1)(D) or (E) of subsection (d) of section 107 of this Act" and insert "designated pursuant to section 107(d) as attainment or unclassifiable".

(4) Strike subsections (a) and (b) of section 176 (42 U.S.C. 7506).

(5) Amend section 307(d)(1) (42 U.S.C. 7607(d)(1)) as follows:

(A) Subparagraph (C) is amended to read as follows:

"(C) the promulgation or revision of any standard of performance under section 111, or emission standard or limitation under section 112(d), any standard under section 112(f), or any regulation under section 112(g)(1)(D) and (F), or any regulation under section 112(m) or (n),".

Regulations.

(B) Subparagraph (F) is amended to read as follows:

"(F) the promulgation or revision of any regulation under title IV (relating to control of acid deposition),".

Regulations.

(C) Delete "and" at the end of subparagraph (M), redesignate subparagraph (N) as subparagraph (U), and add the following new subparagraphs after subparagraph (M):

"(N) the promulgation or revision of any regulation pertaining to consumer and commercial products under section 183(e),

"(O) the promulgation or revision of any regulation pertaining to field citations under section 113(d)(3),

"(P) the promulgation or revision of any regulation pertaining to urban buses or the clean-fuel vehicle, clean-fuel fleet, and clean fuel programs under part C of title II,

"(Q) the promulgation or revision of any regulation pertaining to nonroad engines or nonroad vehicles under section 213,

"(R) the promulgation or revision of any regulation relating to motor vehicle compliance program fees under section 217,

"(S) the promulgation or revision of any regulation under title IV (relating to acid deposition),

"(T) the promulgation or revision of any regulation under section 183(f) pertaining to marine vessels, and".

SEC. 111. TRANSPORTATION SYSTEM IMPACTS ON CLEAN AIR.

42 USC 7408.

Section 108(f) of the Clean Air Act is amended by adding at the end thereof the following new paragraphs:

"(3) The Secretary of Transportation and the Administrator shall submit to Congress by January 1, 1993, and every 3 years thereafter a report that— Reports.

"(A) reviews and analyzes existing State and local air quality-related transportation programs, including specifically any analyses of whether adequate funding is available to complete transportation projects identified in State implementation plans in the time required by applicable State implementation plans and any Federal efforts to promote those programs;

"(B) evaluates the extent to which the Department of Transportation's existing air quality-related transportation programs and such Department's proposed budget will achieve the goals of and compliance with this Act; and

"(C) recommends what, if any, changes to such existing programs and proposed budget as well as any statutory authority relating to air quality-related transportation programs that would improve the achievement of the goals of and compliance with the Clean Air Act.

"(4) In each report to Congress after the first report required under paragraph (3), the Secretary of Transportation shall include a description of the actions taken to implement the changes recommended in the preceding report.

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PART A—AMENDMENTS TO TITLE II OF CLEAN AIR ACT

SEC. 201. HEAVY-DUTY TRUCKS.

Section 202(a)(3) of the Clean Air Act (42 U.S.C. 7521(a)(3)) is amended as follows:

(1) Strike subparagraphs (A), (B), (C), (D), and (E) and insert the following:

Regulations.

"(A) IN GENERAL.—(i) Unless the standard is changed as provided in subparagraph (B), regulations under paragraph (1) of this subsection applicable to emissions of hydrocarbons, carbon monoxide, oxides of nitrogen, and particulate matter from classes or categories of heavy-duty vehicles or engines manufactured during or after model year 1983 shall contain standards which reflect the greatest degree of emission reduction achievable through the application of technology which the Administrator determines will be available for the model year to which such standards apply, giving appropriate consideration to cost, energy, and safety factors associated with the application of such technology.

"(ii) In establishing classes or categories of vehicles or engines for purposes of regulations under this paragraph, the Administrator may base such classes or categories on gross vehicle weight, horsepower, type of fuel used, or other appropriate factors.

"(B) REVISED STANDARDS FOR HEAVY DUTY TRUCKS.—(i) On the basis of information available to the Administrator concerning the effects of air pollutants emitted from heavy-duty vehicles or engines and from other sources of mobile source related pollutants on the public health and welfare, and taking costs into account, the Administrator may promulgate regulations under paragraph (1) of this subsection revising any standard promulgated under, or before the date of, the enactment of the Clean Air Act Amendments of 1990 (or previously revised under this subparagraph) and applicable to classes or categories of heavy-duty vehicles or engines.

"(ii) Effective for the model year 1998 and thereafter, the regulations under paragraph (1) of this subsection applicable to emissions of oxides of nitrogen (NO_x) from gasoline and diesel-fueled heavy duty trucks shall contain standards which provide that such emissions may not exceed 4.0 grams per brake horsepower hour (gbh).

"(C) LEAD TIME AND STABILITY.—Any standard promulgated or revised under this paragraph and applicable to classes or categories of heavy-duty vehicles or engines shall apply for a period of no less than 3 model years beginning no earlier than the model year commencing 4 years after such revised standard is promulgated.

"(D) REBUILDING PRACTICES.—The Administrator shall study the practice of rebuilding heavy-duty engines and the impact

rebuilding has on engine emissions. On the basis of that study and other information available to the Administrator, the Administrator may prescribe requirements to control rebuilding practices, including standards applicable to emissions from any rebuilt heavy-duty engines (whether or not the engine is past its statutory useful life), which in the Administrator's judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare taking costs into account. Any regulation shall take effect after a period the Administrator finds necessary to permit the development and application of the requisite control measures, giving appropriate consideration to the cost of compliance within the period and energy and safety factors.". Effective date.

(2) Redesignate subparagraph (F) as subparagraph (E) and insert "MOTORCYCLES.—" before "For purposes of this paragraph".

SEC. 202. CONTROL OF VEHICLE REFUELING EMISSIONS.

Section 202(a)(6) of the Clean Air Act (42 U.S.C. 7521(a)(6)) is amended to read as follows:

"(6) ONBOARD VAPOR RECOVERY.—Within 1 year after the date of the enactment of the Clean Air Act Amendments of 1990, the Administrator shall, after consultation with the Secretary of Transportation regarding the safety of vehicle-based ('onboard') systems for the control of vehicle refueling emissions, promulgate standards under this section requiring that new light-duty vehicles manufactured beginning in the fourth model year after the model year in which the standards are promulgated and thereafter shall be equipped with such systems. The standards required under this paragraph shall apply to a percentage of each manufacturer's fleet of new light-duty vehicles beginning with the fourth model year after the model year in which the standards are promulgated. The percentage shall be as specified in the following table:

"IMPLEMENTATION SCHEDULE FOR ONBOARD VAPOR RECOVERY REQUIREMENTS

Model year commencing after standards promulgated	Percentage *
Fourth	40
Fifth	80
After Fifth	100

* Percentages in the table refer to a percentage of the manufacturer's sales volume.

The standards shall require that such systems provide a minimum evaporative emission capture efficiency of 95 percent. The requirements of section 182(b)(3) (relating to stage II gasoline vapor recovery) for areas classified under section 181 as moderate for ozone shall not apply after promulgation of such standards and the Administrator may, by rule, revise or waive the application of the requirements of such section 182(b)(3) for areas classified under section 181 as Serious, Severe, or Extreme for ozone, as appropriate, after such time as the Administrator determines that onboard emissions control systems required under this paragraph are in widespread use throughout the motor vehicle fleet.".

SEC. 203. EMISSION STANDARDS FOR CONVENTIONAL MOTOR VEHICLES.

(a) STANDARDS.—Section 202 of the Clean Air Act (42 U.S.C. 7521) is amended by adding the following at the end thereof:

"(g) LIGHT-DUTY TRUCKS UP TO 6,000 LBS. GVWR AND LIGHT-DUTY VEHICLES; STANDARDS FOR MODEL YEARS AFTER 1993.—

"(1) NMHC, CO, AND NO_x.—Effective with respect to the model year 1994 and thereafter, the regulations under subsection (a) applicable to emissions of nonmethane hydrocarbons (NMHC), carbon monoxide (CO), and oxides of nitrogen (NO_x) from light-duty trucks (LDTs) of up to 6,000 lbs. gross vehicle weight rating (GVWR) and light-duty vehicles (LDVs) shall contain standards which provide that emissions from a percentage of each manufacturer's sales volume of such vehicles and trucks shall comply with the levels specified in table G. The percentage shall be as specified in the implementation schedule below:

TABLE G—EMISSION STANDARDS FOR NMHC, CO, AND NO_x FROM LIGHT-DUTY TRUCKS OF UP TO 6,000 LBS. GVWR AND LIGHT-DUTY VEHICLES

Vehicle type	Column A (5 yrs/50,000 mi)			Column B (10 yrs/100,000 mi)		
	NMHC	CO	NO_x	NMHC	CO	NO_x
LDTs (0–3,750 lbs. LVW) and light-duty vehicles	0.25	3.4	0.4*	0.31	4.2	0.6*
LDTs (3,751–5,750 lbs. LVW)	0.32	4.4	0.7**	0.40	5.5	0.97

Standards are expressed in grams per mile (gpm).

For standards under column A, for purposes of certification under section 206, the applicable useful life shall be 5 years or 50,000 miles (or the equivalent), whichever first occurs.

For standards under column B, for purposes of certification under section 206, the applicable useful life shall be 10 years or 100,000 miles (or the equivalent), whichever first occurs.

*In the case of diesel-fueled LDTs (0–3,750 lvw) and light-duty vehicles, before the model year 2004, in lieu of the 0.4 and 0.6 standards for NO_x, the applicable standards for NO_x shall be 1.0 gpm for a useful life of 5 years or 50,000 miles (or the equivalent), whichever first occurs, and 1.25 gpm for a useful life of 10 years or 100,000 miles (or the equivalent) whichever first occurs.

**This standard does not apply to diesel-fueled LDTs (3,751–5,750 lbs. LVW).

"IMPLEMENTATION SCHEDULE FOR TABLE G STANDARDS

Model year	Percentage*
1994	40
1995	80
after 1995	100

*Percentages in the table refer to a percentage of each manufacturer's sales volume.

"(2) PM STANDARD.—Effective with respect to model year 1994 and thereafter in the case of light-duty vehicles, and effective with respect to the model year 1995 and thereafter in the case of light-duty trucks (LDTs) of up to 6,000 lbs. gross vehicle weight rating (GVWR), the regulations under subsection (a) applicable to emissions of particulate matter (PM) from such vehicles and trucks shall contain standards which provide that such emissions from a percentage of each manufacturer's sales volume of such vehicles and trucks shall not exceed the levels

specified in the table below. The percentage shall be as specified in the Implementation Schedule below.

"PM STANDARD FOR LDTs OF UP TO 6,000 LBS. GVWR

Useful life period	Standard
5/50,000	0.08 gpm
10/100,000	0.10 gpm

The applicable useful life, for purposes of certification under section 206 and for purposes of in-use compliance under section 207, shall be 5 years or 50,000 miles (or the equivalent), whichever first occurs, in the case of the 5/50,000 standard.

The applicable useful life, for purposes of certification under section 206 and for purposes of in-use compliance under section 207, shall be 10 years or 100,000 miles (or the equivalent), whichever first occurs in the case of the 10/100,000 standard.

"IMPLEMENTATION SCHEDULE FOR PM STANDARDS

Model year	Light-duty vehicles	LDTs
1994	40% *	
1995	80% *	40% *
1996	100% *	80% *
after 1996	100% *	100% *

* Percentages in the table refer to a percentage of each manufacturer's sales volume.

"(h) LIGHT-DUTY TRUCKS OF MORE THAN 6,000 LBS. GVWR; STANDARDS FOR MODEL YEARS AFTER 1995.—Effective with respect to the model year 1996 and thereafter, the regulations under subsection (a) applicable to emissions of nonmethane hydrocarbons (NMHC), carbon monoxide (CO), oxides of nitrogen (NO_x), and particulate matter (PM) from light-duty trucks (LDTs) of more than 6,000 lbs. gross vehicle weight rating (GVWR) shall contain standards which provide that emissions from a specified percentage of each manufacturer's sales volume of such trucks shall comply with the levels specified in table H. The specified percentage shall be 50 percent in model year 1996 and 100 percent thereafter.

TABLE H—EMISSION STANDARDS FOR NMHC AND CO FROM GASOLINE AND DIESEL FUELED LIGHT-DUTY TRUCKS OF MORE THAN 6,000 LBS. GVWR

LDT Test weight	Column A (5 yrs/50,000 mi)			Column B (11 yrs/120,000 mi)			
	NMHC	CO	NO_x	NMHC	CO	NO_x	PM
3,751-5,750 lbs. TW	0.32	4.4	0.7*	0.46	6.4	0.98	0.10

LDT Test weight	Column A (5 yrs/50,000 mi)			Column B (11 yrs/120,000 mi)			
	NMHC	CO	NO_x	NMHC	CO	NO_x	PM
Over 5,750 lbs. TW	0.39	5.0	1.1*	0.56	7.3	1.53	0.12

Standards are expressed in grams per mile (GPM).
For standards under column A, for purposes of certification under section 206, the applicable useful life shall be 5 years or 50,000 miles (or the equivalent) whichever first occurs.
For standards under column B, for purposes of certification under section 206, the applicable useful life shall be 11 years or 120,000 miles (or the equivalent), whichever first occurs.
*Not applicable to diesel-fueled LDTs.

"(i) PHASE II STUDY FOR CERTAIN LIGHT-DUTY VEHICLES AND LIGHT-DUTY TRUCKS.—(1) The Administrator, with the participation of the Office of Technology Assessment, shall study whether or not further reductions in emissions from light-duty vehicles and light-duty trucks should be required pursuant to this title. The study shall consider whether to establish with respect to model years commencing after January 1, 2003, the standards and useful life period for gasoline and diesel-fueled light-duty vehicles and light-duty trucks with a loaded vehicle weight (LVW) of 3,750 lbs. or less specified in the following table:

"TABLE 3—PENDING EMISSION STANDARDS FOR GASOLINE AND DIESEL FUELED LIGHT-DUTY VEHICLES AND LIGHT-DUTY TRUCKS 3,750 LBS. LVW OR LESS

Pollutant	Emission level*
NMHC	0.125 GPM
NO_x	0.2 GPM
CO	1.7 GPM

*Emission levels are expressed in grams per mile (GPM). For vehicles and engines subject to this subsection for purposes of section 202(d) and any reference thereto, the useful life of such vehicles and engines shall be a period of 10 years or 100,000 miles (or the equivalent), whichever first occurs.

Such study shall also consider other standards and useful life periods which are more stringent or less stringent than those set forth in table 3 (but more stringent than those referred to in subsections (g) and (h)).

"(2)(A) As part of the study under paragraph (1), the Administrator shall examine the need for further reductions in emissions in order to attain or maintain the national ambient air quality standards, taking into consideration the waiver provisions of section 209(b). As part of such study, the Administrator shall also examine—

"(i) the availability of technology (including the costs thereof), in the case of light-duty vehicles and light-duty trucks with a loaded vehicle weight (LVW) of 3,750 lbs. or less, for meeting more stringent emission standards than those provided in subsections (g) and (h) for model years commencing not earlier than after January 1, 2003, and not later than model year 2006, including the lead time and safety and energy impacts of meeting more stringent emission standards; and

"(ii) the need for, and cost effectiveness of, obtaining further reductions in emissions from such light-duty vehicles and light-

duty trucks, taking into consideration alternative means of attaining or maintaining the national primary ambient air quality standards pursuant to State implementation plans and other requirements of this Act, including their feasibility and cost effectiveness.

"(B) The Administrator shall submit a report to Congress no later than June 1, 1997, containing the results of the study under this subsection, including the results of the examination conducted under subparagraph (A). Before submittal of such report the Administrator shall provide a reasonable opportunity for public comment and shall include a summary of such comments in the report to Congress. Reports.

"(3)(A) Based on the study under paragraph (1) the Administrator shall determine, by rule, within 3 calendar years after the report is submitted to Congress, but not later than December 31, 1999, whether— Regulations.

"(i) there is a need for further reductions in emissions as provided in paragraph (2)(A);

"(ii) the technology for meeting more stringent emission standards will be available, as provided in paragraph (2)(A)(i), in the case of light-duty vehicles and light-duty trucks with a loaded vehicle weight (LVW) of 3,750 lbs. or less, for model years commencing not earlier than January 1, 2003, and not later than model year 2006, considering the factors listed in paragraph (2)(A)(i); and

"(iii) obtaining further reductions in emissions from such vehicles will be needed and cost effective, taking into consideration alternatives as provided in paragraph (2)(A)(ii).

The rulemaking under this paragraph shall commence within 3 months after submission of the report to Congress under paragraph (2)(B).

"(B) If the Administrator determines under subparagraph (A) that—

"(i) there is no need for further reductions in emissions as provided in paragraph (2)(A);

"(ii) the technology for meeting more stringent emission standards will not be available as provided in paragraph (2)(A)(i), in the case of light-duty vehicles and light-duty trucks with a loaded vehicle weight (LVW) of 3,750 lbs. or less, for model years commencing not earlier than January 1, 2003, and not later than model year 2006, considering the factors listed in paragraph (2)(A)(i); or

"(iii) obtaining further reductions in emissions from such vehicles will not be needed or cost effective, taking into consideration alternatives as provided in paragraph (2)(A)(ii),

the Administrator shall not promulgate more stringent standards than those in effect pursuant to subsections (g) and (h). Nothing in this paragraph shall prohibit the Administrator from exercising the Administrator's authority under subsection (a) to promulgate more stringent standards for light-duty vehicles and light-duty trucks with a loaded vehicle weight (LVW) of 3,750 lbs. or less at any other time thereafter in accordance with subsection (a).

"(C) If the Administrator determines under subparagraph (A) that—

"(i) there is a need for further reductions in emissions as provided in paragraph (2)(A);

"(ii) the technology for meeting more stringent emission standards will be available, as provided in paragraph (2)(A)(i), in the case of light-duty vehicles and light-duty trucks with a loaded vehicle weight (LVW) of 3,750 lbs. or less, for model years commencing not earlier than January 1, 2003, and not later than model year 2006, considering the factors listed in paragraph (2)(A)(i); and

"(iii) obtaining further reductions in emissions from such vehicles will be needed and cost effective, taking into consideration alternatives as provided in paragraph (2)(A)(ii),

the Administrator shall either promulgate the standards (and useful life periods) set forth in Table 3 in paragraph (1) or promulgate alternative standards (and useful life periods) which are more stringent than those referred to in subsections (g) and (h). Any such standards (or useful life periods) promulgated by the Administrator shall take effect with respect to any such vehicles or engines no earlier than the model year 2003 but not later than model year 2006, as determined by the Administrator in the rule.

"(D) Nothing in this paragraph shall be construed by the Administrator or by a court as a presumption that any standards (or useful life period) set forth in Table 3 shall be promulgated in the rulemaking required under this paragraph. The action required of the Administrator in accordance with this paragraph shall be treated as a nondiscretionary duty for purposes of section 304(a)(2) (relating to citizen suits).

"(E) Unless the Administrator determines not to promulgate more stringent standards as provided in subparagraph (B) or to postpone the effective date of standards referred to in Table 3 in paragraph (1) or to establish alternative standards as provided in subparagraph (C), effective with respect to model years commencing after January 1, 2003, the regulations under subsection (a) applicable to emissions of nonmethane hydrocarbons (NMHC), oxides of nitrogen (NO_x), and carbon monoxide (CO) from motor vehicles and motor vehicle engines in the classes specified in Table 3 in paragraph (1) above shall contain standards which provide that emissions may not exceed the pending emission levels specified in Table 3 in paragraph (1).".

(b) USEFUL LIFE.—Section 202(d) of the Clean Air Act (42 U.S.C. 7521(d)(1)) is amended as follows:

(1) Insert "except where a different useful life period is specified in this title" after "provide that".

(2) Strike the semicolon at the end of paragraph (1) and insert the following ", except that in the case of any requirement of this section which first becomes applicable after the enactment of the Clean Air Act Amendments of 1990 where the useful life period is not otherwise specified for such vehicles and engines, the period shall be 10 years or 100,000 miles (or the equivalent), whichever first occurs, with testing for purposes of in-use compliance under section 207 up to (but not beyond) 7 years or 75,000 miles (or the equivalent), whichever first occurs;"

(3) Insert "and light-duty trucks up to 3,750 lbs. LVW and up to 6,000 lbs. GVWR" after "engines" in paragraph (1).

(c) REVISED STANDARDS.—Subparagraph (C) of section 202(b)(1) of the Clean Air Act (42 U.S.C. 7521(b)(1)(C)) is amended to read as follows:

"(C) The Administrator may promulgate regulations under subsection (a)(1) revising any standard prescribed or previously revised under this subsection, as needed to protect public health or welfare,

taking costs, energy, and safety into account. Any revised standard shall require a reduction of emissions from the standard that was previously applicable. Any such revision under this title may provide for a phase-in of the standard. It is the intent of Congress that the numerical emission standards specified in subsections (a)(3)(B)(ii), (g), (h), and (i) shall not be modified by the Administrator after the enactment of the Clean Air Act Amendments of 1990 for any model year before the model year 2004.".

(d) PROMULGATION.—Section 202(b)(2) of the Clean Air Act (42 U.S.C. 7521(b)(2)) is amended to read as follows:

"(2) Emission standards under paragraph (1), and measurement techniques on which such standards are based (if not promulgated prior to the date of the enactment of the Clean Air Act Amendments of 1990), shall be promulgated by regulation within 180 days after such date.". Regulations.

SEC. 204. CARBON MONOXIDE EMISSIONS AT COLD TEMPERATURES.

Section 202 of the Clean Air Act (42 U.S.C. 7521) is amended by adding the following new subsection after subsection (i):

"(j) COLD CO STANDARD.—

"(1) PHASE I.—Not later than 12 months after the date of the enactment of the Clean Air Act Amendments of 1990, the Administrator shall promulgate regulations under subsection (a) of this section applicable to emissions of carbon monoxide from 1994 and later model year light-duty vehicles and light-duty trucks when operated at 20 degrees Fahrenheit. The regulations shall contain standards which provide that emissions of carbon monoxide from a manufacturer's vehicles when operated at 20 degrees Fahrenheit may not exceed, in the case of light-duty vehicles, 10.0 grams per mile, and in the case of light-duty trucks, a level comparable in stringency to the standard applicable to light-duty vehicles. The standards shall take effect after model year 1993 according to a phase-in schedule which requires a percentage of each manufacturer's sales volume of light-duty vehicles and light-duty trucks to comply with applicable standards after model year 1993. The percentage shall be as specified in the following table: Regulations. Effective date.

"PHASE-IN SCHEDULE FOR COLD START STANDARDS

Model Year	Percentage
1994	40
1995	80
1996 and after	100

"(2) PHASE II.—(A) Not later than June 1, 1997, the Administrator shall complete a study assessing the need for further reductions in emissions of carbon monoxide and the maximum reductions in such emissions achievable from model year 2001 and later model year light-duty vehicles and light-duty trucks when operated at 20 degrees Fahrenheit.

"(B)(i) If as of June 1, 1997, 6 or more nonattainment areas have a carbon monoxide design value of 9.5 ppm or greater, the regulations under subsection (a)(1) of this section applicable to emissions of carbon monoxide from model year 2002 and later

model year light-duty vehicles and light-duty trucks shall contain standards which provide that emissions of carbon monoxide from such vehicles and trucks when operated at 20 degrees Fahrenheit may not exceed 3.4 grams per mile (gpm) in the case of light-duty vehicles and 4.4 grams per mile (gpm) in the case of light-duty trucks up to 6,000 GVWR and a level comparable in stringency in the case of light-duty trucks 6,000 GVWR and above.

Ohio. Wisconsin.

"(ii) In determining for purposes of this subparagraph whether 6 or more nonattainment areas have a carbon monoxide design value of 9.5 ppm or greater, the Administrator shall exclude the areas of Steubenville, Ohio, and Oshkosh, Wisconsin.

"(3) USEFUL-LIFE FOR PHASE I AND PHASE II STANDARDS.—In the case of the standards referred to in paragraphs (1) and (2), for purposes of certification under section 206 and in-use compliance under section 207, the applicable useful life period shall be 5 years or 50,000 miles, whichever first occurs, except that the Administrator may extend such useful life period (for purposes of section 206, or section 207, or both) if he determines that it is feasible for vehicles and engines subject to such standards to meet such standards for a longer useful life. If the Administrator extends such useful life period, the Administrator may make an appropriate adjustment of applicable standards for such extended useful life. No such extended useful life shall extend beyond the useful life period provided in regulations under subsection (d).

"(4) HEAVY-DUTY VEHICLES AND ENGINES.—The Administrator may also promulgate regulations under subsection (a)(1) applicable to emissions of carbon monoxide from heavy-duty vehicles and engines when operated at cold temperatures.".

SEC. 205. EVAPORATIVE EMISSIONS.

Section 202 of the Clean Air Act (42 U.S.C. 7521) is amended by adding the following new subsection after subsection (j):

Regulations. Petroleum.

"(k) CONTROL OF EVAPORATIVE EMISSIONS.—The Administrator shall promulgate (and from time to time revise) regulations applicable to evaporative emissions of hydrocarbons from all gasoline-fueled motor vehicles—

"(1) during operation; and

"(2) over 2 or more days of nonuse;

under ozone-prone summertime conditions (as determined by regulations of the Administrator). The regulations shall take effect as expeditiously as possible and shall require the greatest degree of emission reduction achievable by means reasonably expected to be available for production during any model year to which the regulations apply, giving appropriate consideration to fuel volatility, and to cost, energy, and safety factors associated with the application of the appropriate technology. The Administrator shall commence a rulemaking under this subsection within 12 months after the date of the enactment of the Clean Air Act Amendments of 1990. If final regulations are not promulgated under this subsection within 18 months after the date of the enactment of the Clean Air Act Amendments of 1990, the Administrator shall submit a statement to the Congress containing an explanation of the reasons for the delay and a date certain for promulgation of such final regulations in accordance with this Act. Such date certain shall not be later than 15 months after the expiration of such 18 month deadline.".

SEC. 206. MOBILE SOURCE-RELATED AIR TOXICS.

Section 202 of the Clean Air Act (42 U.S.C. 7521) is amended by adding the following new subsection after subsection (k):

"(l) MOBILE SOURCE-RELATED AIR TOXICS.—

"(1) STUDY.—Not later than 18 months after the date of the enactment of the Clean Air Act Amendments of 1990, the Administrator shall complete a study of the need for, and feasibility of, controlling emissions of toxic air pollutants which are unregulated under this Act and associated with motor vehicles and motor vehicle fuels, and the need for, and feasibility of, controlling such emissions and the means and measures for such controls. The study shall focus on those categories of emissions that pose the greatest risk to human health or about which significant uncertainties remain, including emissions of benzene, formaldehyde, and 1, 3 butadiene. The proposed report shall be available for public review and comment and shall include a summary of all comments.

Reports.
Public information.

"(2) STANDARDS.—Within 54 months after the date of the enactment of the Clean Air Act Amendments of 1990, the Administrator shall, based on the study under paragraph (1), promulgate (and from time to time revise) regulations under subsection (a)(1) or section 211(c)(1) containing reasonable requirements to control hazardous air pollutants from motor vehicles and motor vehicle fuels. The regulations shall contain standards for such fuels or vehicles, or both, which the Administrator determines reflect the greatest degree of emission reduction achievable through the application of technology which will be available, taking into consideration the standards established under subsection (a), the availability and costs of the technology, and noise, energy, and safety factors, and lead time. Such regulations shall not be inconsistent with standards under section 202(a). The regulations shall, at a minimum, apply to emissions of benzene and formaldehyde.".

Regulations.

SEC. 207. EMISSION CONTROL DIAGNOSTICS SYSTEMS AND BUSES.

(a) EMISSION CONTROL DIAGNOSTICS.—Section 202 of the Clean Air Act (42 U.S.C. 7521) is amended by adding the following after subsection (l):

"(m) EMISSIONS CONTROL DIAGNOSTICS.—

"(1) REGULATIONS.—Within 18 months after the enactment of the Clean Air Act Amendments of 1990, the Administrator shall promulgate regulations under subsection (a) requiring manufacturers to install on all new light duty vehicles and light duty trucks diagnostics systems capable of—

"(A) accurately identifying for the vehicle's useful life as established under this section, emission-related systems deterioration or malfunction, including, at a minimum, the catalytic converter and oxygen sensor, which could cause or result in failure of the vehicles to comply with emission standards established under this section,

"(B) alerting the vehicle's owner or operator to the likely need for emission-related components or systems maintenance or repair,

"(C) storing and retrieving fault codes specified by the Administrator, and

"(D) providing access to stored information in a manner specified by the Administrator.

The Administrator may, in the Administrator's discretion, promulgate regulations requiring manufacturers to install such onboard diagnostic systems on heavy-duty vehicles and engines.

"(2) EFFECTIVE DATE.—The regulations required under paragraph (1) of this subsection shall take effect in model year 1994, except that the Administrator may waive the application of such regulations for model year 1994 or 1995 (or both) with respect to any class or category of motor vehicles if the Administrator determines that it would be infeasible to apply the regulations to that class or category in such model year or years, consistent with corresponding regulations or policies adopted by the California Air Resources Board for such systems.

Regulations.

"(3) STATE INSPECTION.—The Administrator shall by regulation require States that have implementation plans containing motor vehicle inspection and maintenance programs to amend their plans within 2 years after promulgation of such regulations to provide for inspection of onboard diagnostics systems (as prescribed by regulations under paragraph (1) of this subsection) and for the maintenance or repair of malfunctions or system deterioration identified by or affecting such diagnostics systems. Such regulations shall not be inconsistent with the provisions for warranties promulgated under section 207(a) and (b).

"(4) SPECIFIC REQUIREMENTS.—In promulgating regulations under this subsection, the Administrator shall require—

"(A) that any connectors through which the emission control diagnostics system is accessed for inspection, diagnosis, service, or repair shall be standard and uniform on all motor vehicles and motor vehicle engines;

"(B) that access to the emission control diagnostics system through such connectors shall be unrestricted and shall not require any access code or any device which is only available from a vehicle manufacturer; and

"(C) that the output of the data from the emission control diagnostics system through such connectors shall be usable without the need for any unique decoding information or device.

Regulations.

"(5) INFORMATION AVAILABILITY.—The Administrator, by regulation, shall require (subject to the provisions of section 208(c) regarding the protection of methods or processes entitled to protection as trade secrets) manufacturers to provide promptly to any person engaged in the repairing or servicing of motor vehicles or motor vehicle engines, and the Administrator for use by any such persons, with any and all information needed to make use of the emission control diagnostics system prescribed under this subsection and such other information including instructions for making emission related diagnosis and repairs. No such information may be withheld under section 208(c) if that information is provided (directly or indirectly) by the manufacturer to franchised dealers or other persons engaged in the repair, diagnosing, or servicing of motor vehicles or motor vehicle engines. Such information shall also be available to the Administrator, subject to section 208(c), in carrying out the Administrator's responsibilities under this section.".

42 USC 7521.

(b) BUSES.—Section 202 of the Clean Air Act is amended by adding the following new subsection at the end thereof:

"(f) MODEL YEARS AFTER 1990.—For model years prior to model year 1994, the regulations under section 202(a) applicable to buses

other than those subject to standards under section 219 shall contain a standard which provides that emissions of particulate matter (PM) from such buses may not exceed the standards set forth in the following table:

"PM STANDARD FOR BUSES

Model year	Standard *
1991	0.25
1992	0.25
1993 and thereafter	0.10

* Standards are expressed in grams per brake horsepower hour (g/bhp/hr).

SEC. 208. MOTOR VEHICLE TESTING AND CERTIFICATION.

(a) ADDITIONAL TESTING PROCEDURES.—Section 206(a) of the Clean Air Act (42 U.S.C. 7525(a)) is amended by adding the following after paragraph (3):

"(4)(A) Not later than 12 months after the date of the enactment of the Clean Air Act Amendments of 1990, the Administrator shall revise the regulations promulgated under this subsection to add test procedures capable of determining whether model year 1994 and later model year light-duty vehicles and light-duty trucks, when properly maintained and used, will pass the inspection methods and procedures established under section 207(b) for that model year, under conditions reasonably likely to be encountered in the conduct of inspection and maintenance programs, but which those programs cannot reasonably influence or control. The conditions shall include fuel characteristics, ambient temperature, and short (30 minutes or less) waiting periods before tests are conducted. The Administrator shall not grant a certificate of conformity under this subsection for any 1994 or later model year vehicle or engine that the Administrator concludes cannot pass the test procedures established under this paragraph. Regulations.

"(B) From time to time, the Administrator may revise the regulations promulgated under subparagraph (A), as the Administrator deems appropriate.".

(b) PROJECTED SALES NOT EXCEEDING 300.—Section 206(a)(1) of the Clean Air Act (42 U.S.C. 7525(a)(1)) is amended by striking the third sentence and inserting the following: "In the case of any original equipment manufacturer (as defined by the Administrator in regulations promulgated before the date of the enactment of the Clean Air Act Amendments of 1990) of vehicles or vehicle engines whose projected sales in the United States for any model year (as determined by the Administrator) will not exceed 300, the Administrator shall not require, for purposes of determining compliance with regulations under section 202 for the useful life of the vehicle or engine, operation of any vehicle or engine manufactured during such model year for more than 5,000 miles or 160 hours, respectively, unless the Administrator, by regulation, prescribes otherwise. The Administrator shall apply any adjustment factors that the Administrator deems appropriate to assure that each vehicle or engine will comply during its useful life (as determined under section 202(d)) with the regulations prescribed under section 202.".

(c) FTP MODIFICATIONS.—Section 206 of the Clean Air Act is amended by adding the following new subsection at the end thereof:

Regulations.

"(h) Within 18 months after the enactment of the Clean Air Act Amendments of 1990, the Administrator shall review and revise as necessary the regulations under subsection (a) and (b) of this section regarding the testing of motor vehicles and motor vehicle engines to insure that vehicles are tested under circumstances which reflect the actual current driving conditions under which motor vehicles are used, including conditions relating to fuel, temperature, acceleration, and altitude.".

SEC. 209. AUTO WARRANTIES.

Effective with respect to new motor vehicles and engines manufactured in the model year 1995 and thereafter, section 207 of the Clean Air Act (42 U.S.C. 7541) is amended as follows:

(1) Strike out "useful life (as determined under section 202(d))" each place it appears in subsection (b) and insert "the warranty period (as determined under subsection (i))".

(2) Strike so much of section 207(b) as follows the third sentence thereof.

(3) Add the following new subsection at the end thereof:

"(i) WARRANTY PERIOD.—

"(1) IN GENERAL.—For purposes of subsection (a)(1) and subsection (b), the warranty period, effective with respect to new light-duty trucks and new light-duty vehicles and engines, manufactured in the model year 1995 and thereafter, shall be the first 2 years or 24,000 miles of use (whichever first occurs), except as provided in paragraph (2). For purposes of subsection (a)(1) and subsection (b), for other vehicles and engines the warranty period shall be the period established by the Administrator by regulation (promulgated prior to the enactment of the Clean Air Act Amendments of 1990) for such purposes unless the Administrator subsequently modifies such regulation.

"(2) SPECIFIED MAJOR EMISSION CONTROL COMPONENTS.—In the case of a specified major emission control component, the warranty period for new light-duty trucks and new light-duty vehicles and engines manufactured in the model year 1995 and thereafter for purposes of subsection (a)(1) and subsection (b) shall be 8 years or 80,000 miles of use (whichever first occurs). As used in this paragraph, the term 'specified major emission control component' means only a catalytic converter, an electronic emissions control unit, and an onboard emissions diagnostic device, except that the Administrator may designate any other pollution control device or component as a specified major emission control component if—

"(A) the device or component was not in general use on vehicles and engines manufactured prior to the model year 1990; and

"(B) the Administrator determines that the retail cost (exclusive of installation costs) of such device or component exceeds $200 (in 1989 dollars), adjusted for inflation or deflation as calculated by the Administrator at the time of such determination.

For purposes of this paragraph, the term 'onboard emissions diagnostic device' means any device installed for the purpose of storing or processing emissions related diagnostic information, but not including any parts or other systems which it monitors except specified major emissions control components. Nothing in this Act shall be construed to provide that any part (other

than a part referred to in the preceding sentence) shall be required to be warranted under this Act for the period of 8 years or 80,000 miles referred to in this paragraph.

"(3) INSTRUCTIONS.—Subparagraph (A) of subsection (b)(2) shall apply only where the Administrator has made a determination that the instructions concerned conform to the requirements of subsection (c)(3).".

(4) Amend subsection (a)(1) by adding the following at the end thereof: "In the case of vehicles and engines manufactured in the model year 1995 and thereafter such warranty shall require that the vehicle or engine is free from any such defects for the warranty period provided under subsection (i).".

SEC. 210. IN-USE COMPLIANCE—RECALL.

Section 207(c) of the Clean Air Act (42 U.S.C. 7541(c)) is amended by adding the following at the end thereof:

"(4) INTERMEDIATE IN-USE STANDARDS.—

"(A) MODEL YEARS 1994 AND 1995.—For light-duty trucks of up to 6,000 lbs. gross vehicle weight rating (GVWR) and light-duty vehicles which are subject to standards under table G of section 202(g)(1) in model years 1994 and 1995 (40 percent of the manufacturer's sales volume in model year 1994 and 80 percent in model year 1995), the standards applicable to NMHC, CO, and NO_x for purposes of this subsection shall be those set forth in table A below in lieu of the standards for such air pollutants otherwise applicable under this title.

"TABLE A—INTERMEDIATE IN-USE STANDARDS LDTS UP TO 6,000 LBS. GVWR AND LIGHT-DUTY VEHICLES

Vehicle type	NMHC	CO	NO_x
Light-duty vehicles	0.32	3.4	0.4*
LDT's (0-3,750 LVW)	0.32	5.2	0.4*
LDT's (3,751-5,750 LVW)	0.41	6.7	0.7*

*Not applicable to diesel-fueled vehicles.

"(B) MODEL YEARS 1996 AND THEREAFTER.—(i) In the model years 1996 and 1997, light-duty trucks (LDTs) up to 6,000 lbs. gross vehicle weight rating (GVWR) and light-duty vehicles which are not subject to final in-use standards under paragraph (5) (60 percent of the manufacturer's sales volume in model year 1996 and 20 percent in model year 1997) shall be subject to the standards set forth in table A of subparagraph (A) for NMHC, CO, and NO_x for purposes of this subsection in lieu of those set forth in paragraph (5).

"(ii) For LDTs of more than 6,000 lbs. GVWR—

"(I) in model year 1996 which are subject to the standards set forth in Table H of section 202(h) (50%);

"(II) in model year 1997 (100%); and

"(III) in model year 1998 which are not subject to final in-use standards under paragraph (5) (50%);

the standards for NMHC, CO, and NO_x for purposes of this subsection shall be those set forth in Table B below in lieu of the standards for such air pollutants otherwise applicable under this title.

"TABLE B—INTERMEDIATE IN-USE STANDARDS LDTs MORE THAN 6,000 LBS. GVWR

Vehicle type	NMHC	CO	NO_x
LDTs (3,751–5,750 lbs. TW)	0.40	5.5	0.88*
LDTs (over 5,750 lbs. TW)	0.49	6.2	1.38*

*Not applicable to diesel-fueled vehicles.

"(C) USEFUL LIFE.—In the case of the in-use standards applicable under this paragraph, for purposes of applying this subsection, the applicable useful life shall be 5 years or 50,000 miles or the equivalent (whichever first occurs).

"(5) FINAL IN-USE STANDARDS.—(A) After the model year 1995, for purposes of applying this subsection, in the case of the percentage specified in the implementation schedule below of each manufacturer's sales volume of light-duty trucks of up to 6,000 lbs. gross vehicle weight rating (GVWR) and light duty vehicles, the standards for NMHC, CO, and NO_x shall be as provided in Table G in section 202(g), except that in applying the standards set forth in Table G for purposes of determining compliance with this subsection, the applicable useful life shall be (i) 5 years or 50,000 miles (or the equivalent) whichever first occurs in the case of standards applicable for purposes of certification at 50,000 miles; and (ii) 10 years or 100,000 miles (or the equivalent), whichever first occurs in the case of standards applicable for purposes of certification at 100,000 miles, except that no testing shall be done beyond 7 years or 75,000 miles, or the equivalent whichever first occurs.

"LDTs UP TO 6,000 LBS. GVWR AND LIGHT-DUTY VEHICLE SCHEDULE FOR IMPLEMENTATION OF FINAL IN-USE STANDARDS

Model year	Percent
1996	40
1997	80
1998	100

"(B) After the model year 1997, for purposes of applying this subsection, in the case of the percentage specified in the implementation schedule below of each manufacturer's sales volume of light-duty trucks of more than 6,000 lbs. gross vehicle weight rating (GVWR), the standards for NMHC, CO, and NO_x shall be as provided in Table H in section 202(h), except that in applying the standards set forth in Table H for purposes of determining compliance with this subsection, the applicable useful life shall be (i) 5 years or 50,000 miles (or the equivalent) whichever first occurs in the case of standards applicable for purposes of certification at 50,000 miles; and (ii) 11 years or 120,000 miles (or the equivalent), whichever first occurs in the case of standards applicable for purposes of certification at 120,000 miles, except that no testing shall be done beyond 7 years or 90,000 miles (or the equivalent) whichever first occurs.

"LDTs of More Than 6,000 Lbs. GVWR Implementation Schedule for Implementation of Final In-Use Standards

Model year	Percent
1998	50
1999	100

"(6) Diesel vehicles; in-use useful life and testing.—(A) In the case of diesel-fueled light-duty trucks up to 6,000 lbs. GVWR and light-duty vehicles, the useful life for purposes of determining in-use compliance with the standards under section 202(g) for NO_x shall be a period of 10 years or 100,000 miles (or the equivalent), whichever first occurs, in the case of standards applicable for purposes of certification at 100,000 miles, except that testing shall not be done for a period beyond 7 years or 75,000 miles (or the equivalent) whichever first occurs.

"(B) In the case of diesel-fueled light-duty trucks of 6,000 lbs. GVWR or more, the useful life for purposes of determining in-use compliance with the standards under section 202(h) for NO_x shall be a period of 11 years or 120,000 miles (or the equivalent), whichever first occurs, in the case of standards applicable for purposes of certification at 120,000 miles, except that testing shall not be done for a period beyond 7 years or 90,000 miles (or the equivalent) whichever first occurs.".

SEC. 211. INFORMATION COLLECTION.

Section 208 of the Clean Air Act (42 U.S.C. 7542) is amended to read as follows:

"SEC. 208. INFORMATION COLLECTION.

"(a) Manufacturer's Responsibility.—Every manufacturer of new motor vehicles or new motor vehicle engines, and every manufacturer of new motor vehicle or engine parts or components, and other persons subject to the requirements of this part or part C, shall establish and maintain records, perform tests where such testing is not otherwise reasonably available under this part and part C (including fees for testing), make reports and provide information the Administrator may reasonably require to determine whether the manufacturer or other person has acted or is acting in compliance with this part and part C and regulations thereunder, or to otherwise carry out the provision of this part and part C, and shall, upon request of an officer or employee duly designated by the Administrator, permit such officer or employee at reasonable times to have access to and copy such records. Records. Reports.

"(b) Enforcement Authority.—For the purposes of enforcement of this section, officers or employees duly designated by the Administrator upon presenting appropriate credentials are authorized—

"(1) to enter, at reasonable times, any establishment of the manufacturer, or of any person whom the manufacturer engages to perform any activity required by subsection (a), for the purposes of inspecting or observing any activity conducted pursuant to subsection (a), and

"(2) to inspect records, files, papers, processes, controls, and facilities used in performing any activity required by subsection

(a), by such manufacturer or by any person whom the manufacturer engages to perform any such activity.

Confidential business information.

"(c) AVAILABILITY TO THE PUBLIC; TRADE SECRETS.—Any records, reports, or information obtained under this part or part C shall be available to the public, except that upon a showing satisfactory to the Administrator by any person that records, reports, or information, or a particular portion thereof (other than emission data), to which the Administrator has access under this section, if made public, would divulge methods or processes entitled to protection as trade secrets of that person, the Administrator shall consider the record, report, or information or particular portion thereof confidential in accordance with the purposes of section 1905 of title 18 of the United States Code. Any authorized representative of the Administrator shall be considered an employee of the United States for purposes of section 1905 of title 18 of the United States Code. Nothing in this section shall prohibit the Administrator or authorized representative of the Administrator from disclosing records, reports or information to other officers, employees or authorized representatives of the United States concerned with carrying out this Act or when relevant in any proceeding under this Act. Nothing in this section shall authorize the withholding of information by the Administrator or any officer or employee under the Administrator's control from the duly authorized committees of the Congress.".

SEC. 212. NONROAD FUELS.

(a) FUELS AND FUEL ADDITIVES.—Section 211(a) of the Clean Air Act (42 U.S.C. 7545(a)) is amended by inserting "(including any fuel or fuel additive used exclusively in nonroad engines or nonroad vehicles)" immediately after "fuel or fuel additive".

(b) ANALYTICAL TECHNIQUES.—Section 211(b)(2)(B) of the Clean Air Act (42 U.S.C. 7545(2)(B)) is amended by striking "or" after "vehicle" and inserting in lieu thereof a comma, and by inserting immediately after "vehicle engine," the phrase: "nonroad engine or nonroad vehicle,".

(c) REGULATION.—Section 211(c)(1) of the Clean Air Act (42 U.S.C. 7545(c)(1)) is amended by striking "or" after "motor vehicle" and inserting in lieu thereof a comma, and by inserting immediately after "motor vehicle engine" a comma followed by "or nonroad engine or nonroad vehicle".

SEC. 213. STATE FUEL REGULATION.

(a) IN GENERAL.—Section 211(c)(4)(A) of the Clean Air Act (42 U.S.C. 7545(c)(4)(A)) is amended as follows:

(1) Strike out "use of a" and insert "any characteristic or component of a".

(2) In clause (i) after "control or prohibition" insert "of the characteristic or component of a fuel or fuel additive".

(3) In clause (ii) after "such" insert "characteristic or component of a".

(b) FINDING OF NECESSITY.—Section 211(c)(4)(C) of the Clean Air Act (42 U.S.C. 7545(c)(4)(C)) is amended by adding the following at the end: "The Administrator may find that a State control or prohibition is necessary to achieve that standard if no other measures that would bring about timely attainment exist, or if other measures exist and are technically possible to implement, but are unreasonable or impracticable. The Administrator may make a

finding of necessity under this subparagraph even if the plan for the area does not contain an approved demonstration of timely attainment.".

SEC. 214. FUEL WAIVERS.

(a) COVERAGE.—Section 211(f)(1) of the Clean Air Act (42 U.S.C. 7545(f)(1) is amended by inserting "(A)" immediately after "(1)" and by adding the following new subparagraph at the end thereof:

"(B) Effective upon the date of the enactment of the Clean Air Act Amendments of 1990, it shall be unlawful for any manufacturer of any fuel or fuel additive to first introduce into commerce, or to increase the concentration in use of, any fuel or fuel additive for use by any person in motor vehicles manufactured after model year 1974 which is not substantially similar to any fuel or fuel additive utilized in the certification of any model year 1975, or subsequent model year, vehicle or engine under section 206.".

(b) CONFORMING AMENDMENT.—Section 211(f)(3) of the Clean Air Act (42 U.S.C. 7545(f)(3)) is amended by inserting "(A)" immediately after "(1)".

SEC. 215. MISFUELING.

Section 211(g) of the Clean Air Act (42 U.S.C. 7545(g)) is amended to read as follows:

"(g) MISFUELING.—(1) No person shall introduce, or cause or allow the introduction of, leaded gasoline into any motor vehicle which is labeled 'unleaded gasoline only,' which is equipped with a gasoline tank filler inlet designed for the introduction of unleaded gasoline, which is a 1990 or later model year motor vehicle, or which such person knows or should know is a vehicle designed solely for the use of unleaded gasoline.

"(2) Beginning October 1 1993, no person shall introduce or cause or allow the introduction into any motor vehicle of diesel fuel which such person knows or should know contains a concentration of sulfur in excess of 0.05 percent (by weight) or which fails to meet a cetane index minimum of 40 or such equivalent alternative aromatic level as prescribed by the Administrator under subsection (i)(2).".

SEC. 216. FUEL VOLATILITY.

Section 211 of the Clean Air Act (42 U.S.C. 7545) is amended by adding the following new subsection at the end thereof:

"(h) REID VAPOR PRESSURE REQUIREMENTS.—

"(1) PROHIBITION.—Not later than 6 months after the date of the enactment of the Clean Air Act Amendments of 1990, the Administrator shall promulgate regulations making it unlawful for any person during the high ozone season (as defined by the Administrator) to sell, offer for sale, dispense, supply, offer for supply, transport, or introduce into commerce gasoline with a Reid Vapor Pressure in excess of 9.0 pounds per square inch (psi). Such regulations shall also establish more stringent Reid Vapor Pressure standards in a nonattainment area as the Administrator finds necessary to generally achieve comparable evaporative emissions (on a per-vehicle basis) in nonattainment areas, taking into consideration the enforceability of such standards, the need of an area for emission control, and economic factors. Regulations.

"(2) ATTAINMENT AREAS.—The regulations under this subsection shall not make it unlawful for any person to sell, offer for

supply, transport, or introduce into commerce gasoline with a Reid Vapor Pressure of 9.0 pounds per square inch (psi) or lower in any area designated under section 107 as an attainment area. Notwithstanding the preceding sentence, the Administrator may impose a Reid vapor pressure requirement lower than 9.0 pounds per square inch (psi) in any area, formerly an ozone nonattainment area, which has been redesignated as an attainment area.

"(3) EFFECTIVE DATE; ENFORCEMENT.—The regulations under this subsection shall provide that the requirements of this subsection shall take effect not later than the high ozone season for 1992, and shall include such provisions as the Administrator determines are necessary to implement and enforce the requirements of this subsection.

"(4) ETHANOL WAIVER.—For fuel blends containing gasoline and 10 percent denatured anhydrous ethanol, the Reid vapor pressure limitation under this subsection shall be one pound per square inch (psi) greater than the applicable Reid vapor pressure limitations established under paragraph (1); Provided, however, That a distributor, blender, marketer, reseller, carrier, retailer, or wholesale purchaser-consumer shall be deemed to be in full compliance with the provisions of this subsection and the regulations promulgated thereunder if it can demonstrate (by showing receipt of a certification or other evidence acceptable to the Administrator) that—

"(A) the gasoline portion of the blend complies with the Reid vapor pressure limitations promulgated pursuant to this subsection;

"(B) the ethanol portion of the blend does not exceed its waiver condition under subsection (f)(4); and

"(C) no additional alcohol or other additive has been added to increase the Reid Vapor Pressure of the ethanol portion of the blend.

"(5) AREAS COVERED.—The provisions of this subsection shall apply only to the 48 contiguous States and the District of Columbia.".

SEC. 217. DIESEL FUEL SULFUR CONTENT.

Section 211 of the Clean Air Act (42 U.S.C. 7545) is amended by adding the following new subsection at the end thereof:

"(i) SULFUR CONTENT REQUIREMENTS FOR DIESEL FUEL.—(1) Effective October 1, 1993, no person shall manufacture, sell, supply, offer for sale or supply, dispense, transport, or introduce into commerce motor vehicle diesel fuel which contains a concentration of sulfur in excess of 0.05 percent (by weight) or which fails to meet a cetane index minimum of 40.

Regulations.

"(2) Not later than 12 months after the date of the enactment of the Clean Air Act Amendments of 1990, the Administrator shall promulgate regulations to implement and enforce the requirements of paragraph (1). The Administrator may require manufacturers and importers of diesel fuel not intended for use in motor vehicles to dye such fuel in a particular manner in order to segregate it from motor vehicle diesel fuel. The Administrator may establish an equivalent alternative aromatic level to the cetane index specification in paragraph (1).

"(3) The sulfur content of fuel required to be used in the certification of 1991 through 1993 model year heavy-duty diesel vehicles

and engines shall be 0.10 percent (by weight). The sulfur content and cetane index minimum of fuel required to be used in the certification of 1994 and later model year heavy-duty diesel vehicles and engines shall comply with the regulations promulgated under paragraph (2).

"(4) The States of Alaska and Hawaii may be exempted from the requirements of this subsection in the same manner as provided in section 324. The Administrator shall take final action on any petition filed under section 324 or this paragraph for an exemption from the requirements of this subsection, within 12 months from the date of the petition.". Alaska. Hawaii.

SEC. 218. LEAD SUBSTITUTE GASOLINE ADDITIVES.

(a) ADDITIVES.—Section 211 of the Clean Air Act (42 U.S.C. 7545) is amended by adding the following at the end thereof:

"(j) LEAD SUBSTITUTE GASOLINE ADDITIVES.—(1) After the date of the enactment of the Clean Air Act Amendments of 1990, any person proposing to register any gasoline additive under subsection (a) or to use any previously registered additive as a lead substitute may also elect to register the additive as a lead substitute gasoline additive for reducing valve seat wear by providing the Administrator with such relevant information regarding product identity and composition as the Administrator deems necessary for carrying out the responsibilities of paragraph (2) of this subsection (in addition to other information which may be required under subsection (b)).

"(2) In addition to the other testing which may be required under subsection (b), in the case of the lead substitute gasoline additives referred to in paragraph (1), the Administrator shall develop and publish a test procedure to determine the additives' effectiveness in reducing valve seat wear and the additives' tendencies to produce engine deposits and other adverse side effects. The test procedures shall be developed in cooperation with the Secretary of Agriculture and with the input of additive manufacturers, engine and engine components manufacturers, and other interested persons. The Administrator shall enter into arrangements with an independent laboratory to conduct tests of each additive using the test procedures developed and published pursuant to this paragraph. The Administrator shall publish the results of the tests by company and additive name in the Federal Register along with, for comparison purposes, the results of applying the same test procedures to gasoline containing 0.1 gram of lead per gallon in lieu of the lead substitute gasoline additive. The Administrator shall not rank or otherwise rate the lead substitute additives. Test procedures shall be established within 1 year after the date of the enactment of the Clean Air Act Amendments of 1990. Additives shall be tested within 18 months of the date of the enactment of the Clean Air Act Amendments of 1990 or 6 months after the lead substitute additives are identified to the Administrator, whichever is later. Research. Federal Register, publication.

"(3) The Administrator may impose a user fee to recover the costs of testing of any fuel additive referred to in this subsection. The fee shall be paid by the person proposing to register the fuel additive concerned. Such fee shall not exceed $20,000 for a single fuel additive.

"(4) There are authorized to be appropriated to the Administrator not more than $1,000,000 for the second full fiscal year after the date of the enactment of the Clean Air Act Amendments of 1990 to Appropriation authorization.

establish test procedures and conduct engine tests as provided in this subsection. Not more than $500,000 per year is authorized to be appropriated for each of the 5 subsequent fiscal years.

"(5) Any fees collected under this subsection shall be deposited in a special fund in the United States Treasury for licensing and other services which thereafter shall be available for appropriation, to remain available until expended, to carry out the Agency's activities for which the fees were collected.".

SEC. 219. REFORMULATED GASOLINE AND OXYGENATED GASOLINE.

Section 211 of the Clean Air Act (42 U.S.C. 7545) is amended by adding the following at the end thereof:

"(k) REFORMULATED GASOLINE FOR CONVENTIONAL VEHICLES.—

"(1) EPA REGULATIONS.—Within 1 year after the enactment of the Clean Air Act Amendments of 1990, the Administrator shall promulgate regulations under this section establishing requirements for reformulated gasoline to be used in gasoline-fueled vehicles in specified nonattainment areas. Such regulations shall require the greatest reduction in emissions of ozone forming volatile organic compounds (during the high ozone season) and emissions of toxic air pollutants (during the entire year) achievable through the reformulation of conventional gasoline, taking into consideration the cost of achieving such emission reductions, any nonair-quality and other air-quality related health and environmental impacts and energy requirements.

"(2) GENERAL REQUIREMENTS.—The regulations referred to in paragraph (1) shall require that reformulated gasoline comply with paragraph (3) and with each of the following requirements (subject to paragraph (7)):

"(A) NO_x EMISSIONS.—The emissions of oxides of nitrogen (NO_x) from baseline vehicles when using the reformulated gasoline shall be no greater than the level of such emissions from such vehicles when using baseline gasoline. If the Administrator determines that compliance with the limitation on emissions of oxides of nitrogen under the preceding sentence is technically infeasible, considering the other requirements applicable under this subsection to such gasoline, the Administrator may, as appropriate to ensure compliance with this subparagraph, adjust (or waive entirely), any other requirements of this paragraph (including the oxygen content requirement contained in subparagraph (B)) or any requirements applicable under paragraph (3)(A).

"(B) OXYGEN CONTENT.—The oxygen content of the gasoline shall equal or exceed 2.0 percent by weight (subject to a testing tolerance established by the Administrator) except as otherwise required by this Act. The Administrator may waive, in whole or in part, the application of this subparagraph for any ozone nonattainment area upon a determination by the Administrator that compliance with such requirement would prevent or interfere with the attainment by the area of a national primary ambient air quality standard.

"(C) BENZENE CONTENT.—The benzene content of the gasoline shall not exceed 1.0 percent by volume.

"(D) HEAVY METALS.—The gasoline shall have no heavy metals, including lead or manganese. The Administrator

may waive the prohibition contained in this subparagraph for a heavy metal (other than lead) if the Administrator determines that addition of the heavy metal to the gasoline will not increase, on an aggregate mass or cancer-risk basis, toxic air pollutant emissions from motor vehicles.

"(3) MORE STRINGENT OF FORMULA OR PERFORMANCE STANDARDS.—The regulations referred to in paragraph (1) shall require compliance with the more stringent of either the requirements set forth in subparagraph (A) or the requirements of subparagraph (B) of this paragraph. For purposes of determining the more stringent provision, clause (i) and clause (ii) of subparagraph (B) shall be considered independently.

"(A) FORMULA.—

"(i) BENZENE.—The benzene content of the reformulated gasoline shall not exceed 1.0 percent by volume.

"(ii) AROMATICS.—The aromatic hydrocarbon content of the reformulated gasoline shall not exceed 25 percent by volume.

"(iii) LEAD.—The reformulated gasoline shall have no lead content.

"(iv) DETERGENTS.—The reformulated gasoline shall contain additives to prevent the accumulation of deposits in engines or vehicle fuel supply systems.

"(v) OXYGEN CONTENT.—The oxygen content of the reformulated gasoline shall equal or exceed 2.0 percent by weight (subject to a testing tolerance established by the Administrator) except as otherwise required by this Act.

"(B) PERFORMANCE STANDARD.—

"(i) VOC EMISSIONS.—During the high ozone season (as defined by the Administrator), the aggregate emissions of ozone forming volatile organic compounds from baseline vehicles when using the reformulated gasoline shall be 15 percent below the aggregate emissions of ozone forming volatile organic compounds from such vehicles when using baseline gasoline. Effective in calendar year 2000 and thereafter, 25 percent shall be substituted for 15 percent in applying this clause, except that the Administrator may adjust such 25 percent requirement to provide for a lesser or greater reduction based on technological feasibility, considering the cost of achieving such reductions in VOC emissions. No such adjustment shall provide for less than a 20 percent reduction below the aggregate emissions of such air pollutants from such vehicles when using baseline gasoline. The reductions required under this clause shall be on a mass basis.

"(ii) TOXICS.—During the entire year, the aggregate emissions of toxic air pollutants from baseline vehicles when using the reformulated gasoline shall be 15 percent below the aggregate emissions of toxic air pollutants from such vehicles when using baseline gasoline. Effective in calendar year 2000 and thereafter, 25 percent shall be substituted for 15 percent in applying this clause, except that the Administrator may adjust such 25 percent requirement to provide for a lesser or greater reduction based on technological feasibility,

considering the cost of achieving such reductions in toxic air pollutants. No such adjustment shall provide for less than a 20 percent reduction below the aggregate emissions of such air pollutants from such vehicles when using baseline gasoline. The reductions required under this clause shall be on a mass basis.

Any reduction greater than a specific percentage reduction required under this subparagraph shall be treated as satisfying such percentage reduction requirement.

"(4) CERTIFICATION PROCEDURES.—

"(A) REGULATIONS.—The regulations under this subsection shall include procedures under which the Administrator shall certify reformulated gasoline as complying with the requirements established pursuant to this subsection. Under such regulations, the Administrator shall establish procedures for any person to petition the Administrator to certify a fuel formulation, or slate of fuel formulations. Such procedures shall further require that the Administrator shall approve or deny such petition within 180 days of receipt. If the Administrator fails to act within such 180-day period, the fuel shall be deemed certified until the Administrator completes action on the petition.

"(B) CERTIFICATION; EQUIVALENCY.—The Administrator shall certify a fuel formulation or slate of fuel formulations as complying with this subsection if such fuel or fuels—

"(i) comply with the requirements of paragraph (2), and

"(ii) achieve equivalent or greater reductions in emissions of ozone forming volatile organic compounds and emissions of toxic air pollutants than are achieved by a reformulated gasoline meeting the applicable requirements of paragraph (3).

"(C) EPA DETERMINATION OF EMISSIONS LEVEL.—Within 1 year after the enactment of the Clean Air Act Amendments of 1990, the Administrator shall determine the level of emissions of ozone forming volatile organic compounds and emissions of toxic air pollutants emitted by baseline vehicles when operating on baseline gasoline. For purposes of this subsection, within 1 year after the enactment of the Clean Air Act Amendments of 1990, the Administrator shall, by rule, determine appropriate measures of, and methodology for, ascertaining the emissions of air pollutants (including calculations, equipment, and testing tolerances).

Regulations.

"(5) PROHIBITION.—Effective beginning January 1, 1995, each of the following shall be a violation of this subsection:

"(A) The sale or dispensing by any person of conventional gasoline to ultimate consumers in any covered area.

"(B) The sale or dispensing by any refiner, blender, importer, or marketer of conventional gasoline for resale in any covered area, without (i) segregating such gasoline from reformulated gasoline, and (ii) clearly marking such conventional gasoline as "conventional gasoline, not for sale to ultimate consumer in a covered area".

Any refiner, blender, importer or marketer who purchases property segregated and marked conventional gasoline, and thereafter labels, represents, or wholesales such gasoline as reformu-

lated gasoline shall also be in violation of this subsection. The Administrator may impose sampling, testing, and record-keeping requirements upon any refiner, blender, importer, or marketer to prevent violations of this section.

"(6) OPT-IN AREAS.—(A) Upon the application of the Governor of a State, the Administrator shall apply the prohibition set forth in paragraph (5) in any area in the State classified under subpart 2 of part D of title I as a Marginal, Moderate, Serious, or Severe Area (without regard to whether or not the 1980 population of the area exceeds 250,000). In any such case, the Administrator shall establish an effective date for such prohibition as he deems appropriate, not later than January 1, 1995, or 1 year after such application is received, whichever is later. The Administrator shall publish such application in the Federal Register upon receipt.

Federal Register, publication.

"(B) If the Administrator determines, on the Administrator's own motion or on petition of any person, after consultation with the Secretary of Energy, that there is insufficient domestic capacity to produce gasoline certified under this subsection, the Administrator shall, by rule, extend the effective date of such prohibition in Marginal, Moderate, Serious, or Severe Areas referred to in subparagraph (A) for one additional year, and may, by rule, renew such extension for 2 additional one-year periods. The Administrator shall act on any petition submitted under this paragraph within 6 months after receipt of the petition. The Administrator shall issue such extensions for areas with a lower ozone classification before issuing any such extension for areas with a higher classification.

"(7) CREDITS.—(A) The regulations promulgated under this subsection shall provide for the granting of an appropriate amount of credits to a person who refines, blends, or imports and certifies a gasoline or slate of gasoline that—

Regulations.

"(i) has an oxygen content (by weight) that exceeds the minimum oxygen content specified in paragraph (2);

"(ii) has an aromatic hydrocarbon content (by volume) that is less than the maximum aromatic hydrocarbon content required to comply with paragraph (3); or

"(iii) has a benzene content (by volume) that is less than the maximum benzene content specified in paragraph (2).

"(B) The regulations described in subparagraph (A) shall also provide that a person who is granted credits may use such credits, or transfer all or a portion of such credits to another person for use within the same nonattainment area, for the purpose of complying with this subsection.

"(C) The regulations promulgated under subparagraphs (A) and (B) shall ensure the enforcement of the requirements for the issuance, application, and transfer of the credits. Such regulations shall prohibit the granting or transfer of such credits for use with respect to any gasoline in a nonattainment area, to the extent the use of such credits would result in any of the following:

"(i) An average gasoline aromatic hydrocarbon content (by volume) for the nonattainment (taking into account all gasoline sold for use in conventional gasoline-fueled vehicles in the nonattainment area) higher than the average fuel aromatic hydrocarbon content (by volume) that would occur in the absence of using any such credits.

"(ii) An average gasoline oxygen content (by weight) for the nonattainment area (taking into account all gasoline sold for use in conventional gasoline-fueled vehicles in the nonattainment area) lower than the average gasoline oxygen content (by weight) that would occur in the absence of using any such credits.

"(iii) An average benzene content (by volume) for the nonattainment area (taking into account all gasoline sold for use in conventional gasoline-fueled vehicles in the nonattainment area) higher than the average benzene content (by volume) that would occur in the absence of using any such credits.

"(8) ANTI-DUMPING RULES.—

Regulations.

"(A) IN GENERAL.—Within 1 year after the enactment of the Clean Air Act Amendments of 1990, the Administrator shall promulgate regulations applicable to each refiner, blender, or importer of gasoline ensuring that gasoline sold or introduced into commerce by such refiner, blender, or importer (other than reformulated gasoline subject to the requirements of paragraph (1)) does not result in average per gallon emissions (measured on a mass basis) of (i) volatile organic compounds, (ii) oxides of nitrogen, (iii) carbon monoxide, and (iv) toxic air pollutants in excess of such emissions of such pollutants attributable to gasoline sold or introduced into commerce in calendar year 1990 by that refiner, blender, or importer. Such regulations shall take effect beginning January 1, 1995.

"(B) ADJUSTMENTS.—In evaluating compliance with the requirements of subparagraph (A), the Administrator shall make appropriate adjustments to insure that no credit is provided for improvement in motor vehicle emissions control in motor vehicles sold after the calendar year 1990.

"(C) COMPLIANCE DETERMINED FOR EACH POLLUTANT INDEPENDENTLY.—In determining whether there is an increase in emissions in violation of the prohibition contained in subparagraph (A) the Administrator shall consider an increase in each air pollutant referred to in clauses (i) through (iv) as a separate violation of such prohibition, except that the Administrator shall promulgate regulations to provide that any increase in emissions of oxides of nitrogen resulting from adding oxygenates to gasoline may be offset by an equivalent or greater reduction (on a mass basis) in emissions of volatile organic compounds, carbon monoxide, or toxic air pollutants, or any combination of the foregoing.

"(D) COMPLIANCE PERIOD.—The Administrator shall promulgate an appropriate compliance period or appropriate compliance periods to be used for assessing compliance with the prohibition contained in subparagraph (A).

"(E) BASELINE FOR DETERMINING COMPLIANCE.—If the Administrator determines that no adequate and reliable data exists regarding the composition of gasoline sold or introduced into commerce by a refiner, blender, or importer in calendar year 1990, for such refiner, blender, or importer, baseline gasoline shall be substituted for such 1990 gasoline in determining compliance with subparagraph (A).

"(9) EMISSIONS FROM ENTIRE VEHICLE.—In applying the requirements of this subsection, the Administrator shall take into account emissions from the entire motor vehicle, including evaporative, running, refueling, and exhaust emissions.

"(10) DEFINITIONS.—For purposes of this subsection—

"(A) BASELINE VEHICLES.—The term 'baseline vehicles' mean representative model year 1990 vehicles.

"(B) BASELINE GASOLINE.—

"(i) SUMMERTIME.—The term 'baseline gasoline' means in the case of gasoline sold during the high ozone period (as defined by the Administrator) a gasoline which meets the following specifications:

"BASELINE GASOLINE FUEL PROPERTIES

API Gravity	57.4
Sulfur, ppm	339
Benzene, %	1.53
RVP, psi	8.7
Octane, R+M/2	87.3
IBP, F	91
10%, F	128
50%, F	218
90%, F	330
End Point, F	415
Aromatics, %	32.0
Olefins, %	9.2
Saturates, %	58.8

"(ii) WINTERTIME.—The Administrator shall establish the specifications of 'baseline gasoline' for gasoline sold at times other than the high ozone period (as defined by the Administrator). Such specifications shall be the specifications of 1990 industry average gasoline sold during such period.

"(C) TOXIC AIR POLLUTANTS.—The term 'toxic air pollutants' means the aggregate emissions of the following:

"Benzene
"1,3 Butadiene
"Polycyclic organic matter (POM)
"Acetaldehyde
"Formaldehyde.

"(D) COVERED AREA.—The 9 ozone nonattainment areas having a 1980 population in excess of 250,000 and having the highest ozone design value during the period 1987 through 1989 shall be 'covered areas' for purposes of this subsection. Effective one year after the reclassification of any ozone nonattainment area as a Severe ozone nonattainment area under section 181(b), such Severe area shall also be a 'covered area' for purposes of this subsection.

"(E) REFORMULATED GASOLINE.—The term 'reformulated gasoline' means any gasoline which is certified by the Administrator under this section as complying with this subsection.

"(F) CONVENTIONAL GASOLINE.—The term 'conventional gasoline' means any gasoline which does not meet specifications set by a certification under this subsection.

"(l) DETERGENTS.—Effective beginning January 1, 1995, no person may sell or dispense to an ultimate consumer in the United States, and no refiner or marketer may directly or indirectly sell or dispense to persons who sell or dispense to ultimate consumers in the United States any gasoline which does not contain additives to prevent the accumulation of deposits in engines or fuel supply

Regulations.

systems. Not later than 2 years after the date of the enactment of the Clean Air Act Amendments of 1990, the Administrator shall promulgate a rule establishing specifications for such additives.

"(m) OXYGENATED FUELS.—

"(1) PLAN REVISIONS FOR CO NONATTAINMENT AREAS.—(A) Each State in which there is located all or part of an area which is designated under title I as a nonattainment area for carbon monoxide and which has a carbon monoxide design value of 9.5 parts per million (ppm) or above based on data for the 2-year period of 1988 and 1989 and calculated according to the most recent interpretation methodology issued by the Administrator prior to the enactment of the Clean Air Act Amendments of 1990 shall submit to the Administrator a State implementation plan revision under section 110 and part D of title I for such area which shall contain the provisions specified under this subsection regarding oxygenated gasoline.

"(B) A plan revision which contains such provisions shall also be submitted by each State in which there is located any area which, for any 2-year period after 1989 has a carbon monoxide design value of 9.5 ppm or above. The revision shall be submitted within 18 months after such 2-year period.

"(2) OXYGENATED GASOLINE IN CO NONATTAINMENT AREAS.—Each plan revision under this subsection shall contain provisions to require that any gasoline sold, or dispensed, to the ultimate consumer in the carbon monoxide nonattainment area or sold or dispensed directly or indirectly by fuel refiners or marketers to persons who sell or dispense to ultimate consumers, in the larger of—

"(A) the Consolidated Metropolitan Statistical Area (CMSA) in which the area is located, or

"(B) if the area is not located in a CMSA, the Metropolitan Statistical Area in which the area is located,

be blended, during the portion of the year in which the area is prone to high ambient concentrations of carbon monoxide to contain not less than 2.7 percent oxygen by weight (subject to a testing tolerance established by the Administrator). The portion of the year in which the area is prone to high ambient concentrations of carbon monoxide shall be as determined by the Administrator, but shall not be less than 4 months. At the request of a State with respect to any area designated as nonattainment for carbon monoxide, the Administrator may reduce the period specified in the preceding sentence if the State can demonstrate that because of meteorological conditions, a reduced period will assure that there will be no exceedances of the carbon monoxide standard outside of such reduced period. For areas with a carbon monoxide design value of 9.5 ppm or more of the date of enactment of the Clean Air Act Amendments of 1990, the revision shall provide that such requirement shall take effect no later than November 1, 1992, (or at such other date during 1992 as the Administrator establishes under the preceding provisions of this paragraph). For other areas, the revision shall provide that such requirement shall take effect no later than November 1 of the third year after the last year of the applicable 2-year period referred to in paragraph (1) (or at such other date during such third year as the Administrator establishes under the preceding provisions of this paragraph) and shall include a program for implementation

and enforcement of the requirement consistent with guidance to be issued by the Administrator.

"(3) WAIVERS.—(A) The Administrator shall waive, in whole or in part, the requirements of paragraph (2) upon a demonstration by the State to the satisfaction of the Administrator that the use of oxygenated gasoline would prevent or interfere with the attainment by the area of a national primary ambient air quality standard (or a State or local ambient air quality standard) for any air pollutant other than carbon monoxide.

"(B) The Administrator shall, upon demonstration by the State satisfactory to the Administrator, waive the requirement of paragraph (2) where the Administrator determines that mobile sources of carbon monoxide do not contribute significantly to carbon monoxide levels in an area.

"(C)(i) Any person may petition the Administrator to make a finding that there is, or is likely to be, for any area, an inadequate domestic supply of, or distribution capacity for, oxygenated gasoline meeting the requirements of paragraph (2) or fuel additives (oxygenates) necessary to meet such requirements. The Administrator shall act on such petition within 6 months after receipt of the petition.

"(ii) If the Administrator determines, in response to a petition under clause (i), that there is an inadequate supply or capacity described in clause (i), the Administrator shall delay the effective date of paragraph (2) for 1 year. Upon petition, the Administrator may extend such effective date for one additional year. No partial delay or lesser waiver may be granted under this clause. Effective date.

"(iii) In granting waivers under this subparagraph the Administrator shall consider distribution capacity separately from the adequacy of domestic supply and shall grant such waivers in such manner as will assure that, if supplies of oxygenated gasoline are limited, areas having the highest design value for carbon monoxide will have a priority in obtaining oxygenated gasoline which meets the requirements of paragraph (2).

"(iv) As used in this subparagraph, the term distribution capacity includes capacity for transportation, storage, and blending.

"(4) FUEL DISPENSING SYSTEMS.—Any person selling oxygenated gasoline at retail pursuant to this subsection shall be required under regulations promulgated by the Administrator to label the fuel dispensing system with a notice that the gasoline is oxygenated and will reduce the carbon monoxide emissions from the motor vehicle. Regulations.

"(5) GUIDELINES FOR CREDIT.—The Administrator shall promulgate guidelines, within 9 months after the date of the enactment of the Clean Air Act Amendments of 1990, allowing the use of marketable oxygen credits from gasolines during that portion of the year specified in paragraph (2) with higher oxygen content than required to offset the sale or use of gasoline with a lower oxygen content than required. No credits may be transferred between nonattainment areas.

"(6) ATTAINMENT AREAS.—Nothing in this subsection shall be interpreted as requiring an oxygenated gasoline program in an area which is in attainment for carbon monoxide, except that in a carbon monoxide nonattainment area which is redesignated

as attainment for carbon monoxide, the requirements of this subsection shall remain in effect to the extent such program is necessary to maintain such standard thereafter in the area.

"(7) FAILURE TO ATTAIN CO STANDARD.—If the Administrator determines under section 186(b)(2) that the national primary ambient air quality standard for carbon monoxide has not been attained in a Serious Area by the applicable attainment date, the State shall submit a plan revision for the area within 9 months after the date of such determination. The plan revision shall provide that the minimum oxygen content of gasoline referred to in paragraph (2) shall be 3.1 percent by weight unless such requirement is waived in accordance with the provisions of this subsection.".

SEC. 220. LEAD PHASEDOWN.

42 USC 7545.

Section 211 of the Clean Air Act is amended by adding the following new subsection at the end thereof:

"(n) PROHIBITION ON LEADED GASOLINE FOR HIGHWAY USE.—After December 31, 1995, it shall be unlawful for any person to sell, offer for sale, supply, offer for supply, dispense, transport, or introduce into commerce, for use as fuel in any motor vehicle (as defined in section 219(2)) any gasoline which contains lead or lead additives.".

SEC. 221. FUEL AND FUEL ADDITIVE IMPORTERS.

Section 211 of the Clean Air Act is amended by adding the following new subsection at the end thereof:

"(o) FUEL AND FUEL ADDITIVE IMPORTERS AND IMPORTATION.—For the purposes of this section, the term 'manufacturer' includes an importer and the term 'manufacture' includes importation.".

SEC. 222. NONROAD ENGINES AND VEHICLES.

(a) EMISSION STANDARDS.—Section 213 of the Clean Air Act (42 U.S.C. 7547) is amended to read as follows:

"SEC. 213. NONROAD ENGINES AND VEHICLES.

"(a) EMISSIONS STANDARDS.—(1) The Administrator shall conduct a study of emissions from nonroad engines and nonroad vehicles (other than locomotives or engines used in locomotives) to determine if such emissions cause, or significantly contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare. Such study shall be completed within 12 months of the date of the enactment of the Clean Air Act Amendments of 1990.

"(2) After notice and opportunity for public hearing, the Administrator shall determine within 12 months after completion of the study under paragraph (1), based upon the results of such study, whether emissions of carbon monoxide, oxides of nitrogen, and volatile organic compounds from new and existing nonroad engines or nonroad vehicles (other than locomotives or engines used in locomotives) are significant contributors to ozone or carbon monoxide concentrations in more than 1 area which has failed to attain the national ambient air quality standards for ozone or carbon monoxide. Such determination shall be included in the regulations under paragraph (3).

Regulations.

"(3) If the Administrator makes an affirmative determination under paragraph (2) the Administrator shall, within 12 months after completion of the study under paragraph (1), promulgate (and from time to time revise) regulations containing standards applicable to

emissions from those classes or categories of new nonroad engines and new nonroad vehicles (other than locomotives or engines used in locomotives) which in the Administrator's judgment cause, or contribute to, such air pollution. Such standards shall achieve the greatest degree of emission reduction achievable through the application of technology which the Administrator determines will be available for the engines or vehicles to which such standards apply, giving appropriate consideration to the cost of applying such technology within the period of time available to manufacturers and to noise, energy, and safety factors associated with the application of such technology. In determining what degree of reduction will be available, the Administrator shall first consider standards equivalent in stringency to standards for comparable motor vehicles or engines (if any) regulated under section 202, taking into account the technological feasibility, costs, safety, noise, and energy factors associated with achieving, as appropriate, standards of such stringency and lead time. The regulations shall apply to the useful life of the engines or vehicles (as determined by the Administrator).

"(4) If the Administrator determines that any emissions not referred to in paragraph (2) from new nonroad engines or vehicles significantly contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, the Administrator may promulgate (and from time to time revise) such regulations as the Administrator deems appropriate containing standards applicable to emissions from those classes or categories of new nonroad engines and new nonroad vehicles (other than locomotives or engines used in locomotives) which in the Administrator's judgment cause, or contribute to, such air pollution, taking into account costs, noise, safety, and energy factors associated with the application of technology which the Administrator determines will be available for the engines and vehicles to which such standards apply. The regulations shall apply to the useful life of the engines or vehicles (as determined by the Administrator).

"(5) Within 5 years after the enactment of the Clean Air Act Amendments of 1990, the Administrator shall promulgate regulations containing standards applicable to emissions from new locomotives and new engines used in locomotives. Such standards shall achieve the greatest degree of emission reduction achievable through the application of technology which the Administrator determines will be available for the locomotives or engines to which such standards apply, giving appropriate consideration to the cost of applying such technology within the period of time available to manufacturers and to noise, energy, and safety factors associated with the application of such technology. Regulations.

"(b) EFFECTIVE DATE.—Standards under this section shall take effect at the earliest possible date considering the lead time necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period and energy and safety.

"(c) SAFE CONTROLS.—Effective with respect to new engines or vehicles to which standards under this section apply, no emission control device, system, or element of design shall be used in such a new nonroad engine or new nonroad vehicle for purposes of complying with such standards if such device, system, or element of design will cause or contribute to an unreasonable risk to public health, welfare, or safety in its operation or function. In determining

whether an unreasonable risk exists, the Administrator shall consider factors including those described in section 202(a)(4)(B).

"(d) ENFORCEMENT.—The standards under this section shall be subject to sections 206, 207, 208, and 209, with such modifications of the applicable regulations implementing such sections as the Administrator deems appropriate, and shall be enforced in the same manner as standards prescribed under section 202. The Administrator shall revise or promulgate regulations as may be necessary to determine compliance with, and enforce, standards in effect under this section.".

Regulations.

(b) STATE STANDARDS.—Section 209 of the Clean Air Act (42 U.S.C. 7543) is amended by adding the following at the end thereof:

"(e) NONROAD ENGINES OR VEHICLES.—

"(1) PROHIBITION ON CERTAIN STATE STANDARDS.—No State or any political subdivision thereof shall adopt or attempt to enforce any standard or other requirement relating to the control of emissions from either of the following new nonroad engines or nonroad vehicles subject to regulation under this Act—

"(A) New engines which are used in construction equipment or vehicles or used in farm equipment or vehicles and which are smaller than 175 horsepower.

"(B) New locomotives or new engines used in locomotives.

Subsection (b) shall not apply for purposes of this paragraph.

California.

"(2) OTHER NONROAD ENGINES OR VEHICLES.—(A) In the case of any nonroad vehicles or engines other than those referred to in subparagraph (A) or (B) of paragraph (1), the Administrator shall, after notice and opportunity for public hearing, authorize California to adopt and enforce standards and other requirements relating to the control of emissions from such vehicles or engines if California determines that California standards will be, in the aggregate, at least as protective of public health and welfare as applicable Federal standards. No such authorization shall be granted if the Administrator finds that—

"(i) the determination of California is arbitrary and capricious,

"(ii) California does not need such California standards to meet compelling and extraordinary conditions, or

"(iii) California standards and accompanying enforcement procedures are not consistent with this section.

"(B) Any State other than California which has plan provisions approved under part D of title I may adopt and enforce, after notice to the Administrator, for any period, standards relating to control of emissions from nonroad vehicles or engines (other than those referred to in subparagraph (A) or (B) of paragraph (1)) and take such other actions as are referred to in subparagraph (A) of this paragraph respecting such vehicles or engines if—

"(i) such standards and implementation and enforcement are identical, for the period concerned, to the California standards authorized by the Administrator under subparagraph (A), and

"(ii) California and such State adopt such standards at least 2 years before commencement of the period for which the standards take effect.

Regulations.

The Administrator shall issue regulations to implement this subsection.".

SEC. 223. NEW TITLE II DEFINITIONS.

(a) ADDITIONAL DEFINITIONS.—Section 216 of the Clean Air Act (42 U.S.C. 7550) is amended by adding the following at the end thereof:

"(7) VEHICLE CURB WEIGHT, GROSS VEHICLE WEIGHT RATING, LIGHT-DUTY TRUCK, LIGHT-DUTY VEHICLE, AND LOADED VEHICLE WEIGHT.—The terms 'vehicle curb weight', 'gross vehicle weight rating' (GVWR), 'light-duty truck' (LDT), light-duty vehicle, and 'loaded vehicle weight' (LVW) have the meaning provided in regulations promulgated by the Administrator and in effect as of the enactment of the Clean Air Act Amendments of 1990. The abbreviations in parentheses corresponding to any term referred to in this paragraph shall have the same meaning as the corresponding term.

"(8) TEST WEIGHT.—The term 'test weight' and the abbreviation 'tw' mean the vehicle curb weight added to the gross vehicle weight rating (gvwr) and divided by 2.

"(9) MOTOR VEHICLE OR ENGINE PART MANUFACTURER.—The term 'motor vehicle or engine part manufacturer' as used in sections 207 and 208 means any person engaged in the manufacturing, assembling or rebuilding of any device, system, part, component or element of design which is installed in or on motor vehicles or motor vehicle engines.

"(10) NONROAD ENGINE.—The term 'nonroad engine' means an internal combustion engine (including the fuel system) that is not used in a motor vehicle or a vehicle used solely for competition, or that is not subject to standards promulgated under section 111 or section 202.

"(11) NONROAD VEHICLE.—The term 'nonroad vehicle' means a vehicle that is powered by a nonroad engine and that is not a motor vehicle or a vehicle used solely for competition.".

(b) DEFINITION OF MANUFACTURER.—Paragraph (1) of section 216 of the Clean Air Act (42 U.S.C. 7550) is amended by striking out "new motor vehicles or new motor vehicle engines" every place it occurs and inserting "new motor vehicles, new motor vehicle engines, new nonroad vehicles or new nonroad engines".

SEC. 224. HIGH ALTITUDE TESTING.

Section 215 of the Clean Air Act (42 U.S.C. 7549) is amended by adding the following at the end thereof:

"(e) HIGH ALTITUDE TESTING.—(1) The Administrator shall promptly establish at least one testing center (in addition to the testing centers existing on the date of the enactment of the Clean Air Act Amendments of 1990) located at a site that represents high altitude conditions, to ascertain in a reasonable manner whether, when in actual use throughout their useful life (as determined under section 202(d)), each class or category of vehicle and engines to which regulations under section 202 apply conforms to the emissions standards established by such regulations. For purposes of this subsection, the term 'high altitude conditions' refers to high altitude as defined in regulations of the Administrator in effect as of the date of the enactment of the Clean Air Act Amendments of 1990. Motor vehicles. Establishment.

"(2) The Administrator, in cooperation with the Secretary of Energy and the Administrator of the Urban Mass Transportation Administration, and such other agencies as the Administrator deems appropriate, shall establish a research and technology assessment center to provide for the development and evaluation of less-polluting heavy-duty engines and fuels for use in buses, heavy-duty Establishment.

trucks, and non-road engines and vehicles, which shall be located at a high-altitude site that represents high-altitude conditions. In establishing and funding such a center, the Administrator shall give preference to proposals which provide for local cost-sharing of facilities and recovery of costs of operation through utilization of such facility for the purposes of this section.

"(3) The Administrator shall designate at least one center at high-altitude conditions to provide research on after-market emission components, dual-fueled vehicles and conversion kits, the effects of tampering on emissions equipment, testing of alternate fuels and conversion kits, and the development of curricula, training courses, and materials to maximize the effectiveness of inspection and maintenance programs as they relate to promoting effective control of vehicle emissions at high-altitude elevations. Preference shall be given to existing vehicle emissions testing and research centers that have established reputations for vehicle emissions research and development and training, and that possess in-house Federal Test Procedure capacity.".

SEC. 225. COMPLIANCE PROGRAM FEES.

Part A of title II of the Clean Air Act is amended by adding the following new section at the end thereof:

42 USC 7552.

"SEC. 217. MOTOR VEHICLE COMPLIANCE PROGRAM FEES.

"(a) FEE COLLECTION.—Consistent with section 9701 of title 31, United States Code, the Administrator may promulgate (and from time to time revise) regulations establishing fees to recover all reasonable costs to the Administrator associated with—

"(1) new vehicle or engine certification under section 206(a) or part C,

"(2) new vehicle or engine compliance monitoring and testing under section 206(b) or part C, and

"(3) in-use vehicle or engine compliance monitoring and testing under section 207(c) or part C.

Manufacturers.

The Administrator may establish for all foreign and domestic manufacturers a fee schedule based on such factors as the Administrator finds appropriate and equitable and nondiscriminatory, including the number of vehicles or engines produced under a certificate of conformity. In the case of heavy-duty engine and vehicle manufacturers, such fees shall not exceed a reasonable amount to recover an appropriate portion of such reasonable costs.

"(b) SPECIAL TREASURY FUND.—Any fees collected under this section shall be deposited in a special fund in the United States Treasury for licensing and other services which thereafter shall be available for appropriation, to remain available until expended, to carry out the Agency's activities for which the fees were collected.

"(c) LIMITATION ON FUND USE.—Moneys in the special fund referred to in subsection (b) shall not be used until after the first fiscal year commencing after the first July 1 when fees are paid into the fund.

"(d) ADMINISTRATOR'S TESTING AUTHORITY.—Nothing in this subsection shall be construed to limit the Administrator's authority to require manufacturer or confirmatory testing as provided in this part.".

SEC. 226. PROHIBITION ON PRODUCTION OF ENGINES REQUIRING LEADED GASOLINE.

Part A of title II of the Clean Air Act is amended by adding the following new section after section 217:

"SEC. 218. PROHIBITION ON PRODUCTION OF ENGINES REQUIRING LEADED GASOLINE. 42 USC 7553.

"The Administrator shall promulgate regulations applicable to motor vehicle engines and nonroad engines manufactured after model year 1992 that prohibit the manufacture, sale, or introduction into commerce of any engine that requires leaded gasoline.". Regulations.

SEC. 227. URBAN BUSES.

Part A of title II of the Clean Air Act is amended by adding the following new section after section 218:

"SEC. 219. URBAN BUS STANDARDS. 42 USC 7554.

"(a) STANDARDS FOR MODEL YEARS AFTER 1993.—Not later than January 1, 1992, the Administrator shall promulgate regulations under section 202(a) applicable to urban buses for the model year 1994 and thereafter. Such standards shall be based on the best technology that can reasonably be anticipated to be available at the time such measures are to be implemented, taking costs, safety, energy, lead time, and other relevant factors into account. Such regulations shall require that such urban buses comply with the provisions of subsection (b) of this section (and subsection (c) of this subsection, if applicable) in addition to compliance with the standards applicable under section 202(a) for heavy-duty vehicles of the same type and model year. Regulations.

"(b) PM STANDARD.—

"(1) 50 PERCENT REDUCTION.—The standards under section 202(a) applicable to urban buses shall require that, effective for the model year 1994 and thereafter, emissions of particulate matter (PM) from urban buses shall not exceed 50 percent of the emissions of particulate matter (PM) allowed under the emission standard applicable under section 202(a) as of the date of the enactment of the Clean Air Act Amendments of 1990 for particulate matter (PM) in the case of heavy-duty diesel vehicles and engines manufactured in the model year 1994.

"(2) REVISED REDUCTION.—The Administrator shall increase the level of emissions of particulate matter allowed under the standard referred to in paragraph (1) if the Administrator determines that the 50 percent reduction referred to in paragraph (1) is not technologically achievable, taking into account durability, costs, lead time, safety, and other relevant factors. The Administrator may not increase such level of emissions above 70 percent of the emissions of particulate matter (PM) allowed under the emission standard applicable under section 202(a) as of the date of the enactment of the Clean Air Act Amendments of 1990 for particulate matter (PM) in the case of heavy-duty diesel vehicles and engines manufactured in the model year 1994.

"(3) DETERMINATION AS PART OF RULE.—As part of the rulemaking under subsection (a), the Administrator shall make a determination as to whether the 50 percent reduction referred to in paragraph (1) is technologically achievable, taking into

account durability, costs, lead time, safety, and other relevant factors.

"(c) LOW-POLLUTING FUEL REQUIREMENT.—

"(1) ANNUAL TESTING.—Beginning with model year 1994 buses, the Administrator shall conduct annual tests of a representative sample of operating urban buses subject to the particulate matter (PM) standard applicable pursuant to subsection (b) to determine whether such buses comply with such standard in use over their full useful life.

"(2) PROMULGATION OF ADDITIONAL LOW-POLLUTING FUEL REQUIREMENT.—(A) If the Administrator determines, based on the testing under paragraph (1), that urban buses subject to the particulate matter (PM) standard applicable pursuant to subsection (b) do not comply with such standard in use over their full useful life, he shall revise the standards applicable to such buses to require (in addition to compliance with the PM standard applicable pursuant to subsection (b)) that all new urban buses purchased or placed into service by owners or operators of urban buses in all metropolitan statistical areas or consolidated metropolitan statistical areas with a 1980 population of 750,000 or more shall be capable of operating, and shall be exclusively operated, on low-polluting fuels. The Administrator shall establish the pass-fail rate for purposes of testing under this subparagraph.

"(B) The Administrator shall promulgate a schedule phasing in any low-polluting fuel requirement established pursuant to this paragraph to an increasing percentage of new urban buses purchased or placed into service in each of the first 5 model years commencing 3 years after the determination under subparagraph (A). Under such schedule 100 percent of new urban buses placed into service in the fifth model year commencing 3 years after the determination under subparagraph (A) shall comply with the low-polluting fuel requirement established pursuant to this paragraph.

"(C) The Administrator may extend the requirements of this paragraph to metropolitan statistical areas or consolidated metropolitan statistical areas with a 1980 population of less than 750,000, if the Administrator determines that a significant benefit to public health could be expected to result from such extension.

Regulations.

"(d) RETROFIT REQUIREMENTS.—Not later than 12 months after the enactment of the Clean Air Act Amendments of 1990, the Administrator shall promulgate regulations under section 202(a) requiring that urban buses which—

"(1) are operating in areas referred to in subparagraph (A) of subsection (c)(2) (or subparagraph (C) of subsection (c)(2) if the Administrator has taken action under that subparagraph);

"(2) were not subject to standards in effect under the regulations under subsection (a); and

"(3) have their engines replaced or rebuilt after January 1, 1995,

shall comply with an emissions standard or emissions control technology requirement established by the Administrator in such regulations. Such emissions standard or emissions control technology requirement shall reflect the best retrofit technology and maintenance practices reasonably achievable.

"(e) PROCEDURES FOR ADMINISTRATION AND ENFORCEMENT.—The Administrator shall establish, within 18 months after the enactment of the Clean Air Act Amendments to 1990, and in accordance with section 206(h), procedures for the administration and enforcement of standards for buses subject to standards under this section, testing procedures, sampling protocols, in-use compliance requirements, and criteria governing evaluation of buses. Procedures for testing (including, but not limited to, certification testing) shall reflect actual operating conditions. Buses.

"(f) DEFINITIONS.—For purposes of this section—

"(1) URBAN BUS.—The term 'urban bus' has the meaning provided under regulations of the Administrator promulgated under section 202(a).

"(2) LOW-POLLUTING FUEL.—The term 'low-polluting fuel' means methanol, ethanol, propane, or natural gas, or any comparably low-polluting fuel. In determining whether a fuel is comparably low-polluting, the Administrator shall consider both the level of emissions of air pollutants from vehicles using the fuel and the contribution of such emissions to ambient levels of air pollutants. For purposes of this paragraph, the term 'methanol' includes any fuel which contains at least 85 percent methanol unless the Administrator increases such percentage as he deems appropriate to protect public health and welfare."

(b) CONFORMING AMENDMENT.—Section 202(a)(4) of the Clean Air Act (42 U.S.C. 7521(a)(4)) is amended by striking out "standards prescribed under this subsection" every place it occurs and inserting "requirements prescribed under this title".

SEC. 228. ENFORCEMENT.

(a) INSPECTIONS AND TESTING.—Section 203(a)(2) of the Clean Air Act (42 U.S.C. 7522(a)(2)) is amended to read as follows:

"(2)(A) for any person to fail or refuse to permit access to or copying of records or to fail to make reports or provide information required under section 208;

"(B) for any person to fail or refuse to permit entry, testing or inspection authorized under section 206(c) or section 208;

"(C) for any person to fail or refuse to perform tests, or have tests performed as required under section 208;

"(D) for any manufacturer to fail to make information available as provided by regulation under section 202(m)(5);".

(b) TAMPERING WITH VEHICLE EMISSION CONTROLS.—(1) Section 203(a)(3) (42 U.S.C. 7522(a)(3)) is amended to read as follows:

"(3)(A) for any person to remove or render inoperative any device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with regulations under this title prior to its sale and delivery to the ultimate purchaser, or for any person knowingly to remove or render inoperative any such device or element of design after such sale and delivery to the ultimate purchaser; or

"(B) for any person to manufacture or sell, or offer to sell, or install, any part or component intended for use with, or as part of, any motor vehicle or motor vehicle engine, where a principal effect of the part or component is to bypass, defeat, or render inoperative any device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with regulations under this title, and where the person knows or should

know that such part or component is being offered for sale or installed for such use or put to such use; or".

(2) At the end of section 203(a) (42 U.S.C. 7522(a)) insert the following: "No action with respect to any device or element of design referred to in paragraph (3) shall be treated as a prohibited act under that paragraph if (i) the action is for the purpose of repair or replacement of the device or element, or is a necessary and temporary procedure to repair or replace any other item and the device or element is replaced upon completion of the procedure, and (ii) such action thereafter results in the proper functioning of the device or element referred to in paragraph (3). No action with respect to any device or element of design referred to in paragraph (3) shall be treated as a prohibited act under that paragraph if the action is for the purpose of a conversion of a motor vehicle for use of a clean alternative fuel (as defined in this title) and if such vehicle complies with the applicable standard under section 202 when operating on such fuel, and if in the case of a clean alternative fuel vehicle (as defined by rule by the Administrator), the device or element is replaced upon completion of the conversion procedure and such action results in proper functioning of the device or element when the motor vehicle operates on conventional fuel.".

(c) CIVIL AND ADMINISTRATIVE PENALTIES.—Section 205 of the Clean Air Act (42 U.S.C. 7524) is amended to read as follows:

"SEC. 205. CIVIL PENALTIES.

"(a) VIOLATIONS.—Any person who violates sections 203(a)(1), 203(a)(4), or 203(a)(5) or any manufacturer or dealer who violates section 203(a)(3)(A) shall be subject to a civil penalty of not more than $25,000. Any person other than a manufacturer or dealer who violates section 203(a)(3)(A) or any person who violates section 203(a)(3)(B) shall be subject to a civil penalty of not more than $2,500. Any such violation with respect to paragraph (1), (3)(A), or (4) of section 203(a) shall constitute a separate offense with respect to each motor vehicle or motor vehicle engine. Any such violation with respect to section 203(a)(3)(B) shall constitute a separate offense with respect to each part or component. Any person who violates section 203(a)(2) shall be subject to a civil penalty of not more than $25,000 per day of violation.

"(b) CIVIL ACTIONS.—The Administrator may commence a civil action to assess and recover any civil penalty under subsection (a) of this section, section 211(d), or section 213(d). Any action under this subsection may be brought in the district court of the United States for the district in which the violation is alleged to have occurred or in which the defendant resides or has the Administrator's principal place of business, and the court shall have jurisdiction to assess a civil penalty. In determining the amount of any civil penalty to be assessed under this subsection, the court shall take into account the gravity of the violation, the economic benefit or savings (if any) resulting from the violation, the size of the violator's business, the violator's history of compliance with this title, action taken to remedy the violation, the effect of the penalty on the violator's ability to continue in business, and such other matters as justice may require. In any such action, subpoenas for witnesses who are required to attend a district court in any district may run into any other district.

"(c) ADMINISTRATIVE ASSESSMENT OF CERTAIN PENALTIES.—

"(1) ADMINISTRATIVE PENALTY AUTHORITY.—In lieu of commencing a civil action under subsection (b), the Administrator may assess any civil penalty prescribed in subsection (a) of this section, section 211(d), or section 213(d), except that the maximum amount of penalty sought against each violator in a penalty assessment proceeding shall not exceed $200,000, unless the Administrator and the Attorney General jointly determine that a matter involving a larger penalty amount is appropriate for administrative penalty assessment. Any such determination by the Administrator and the Attorney General shall not be subject to judicial review. Assessment of a civil penalty under this subsection shall be by an order made on the record after opportunity for a hearing in accordance with sections 554 and 556 of title 5 of the United States Code. The Administrator shall issue reasonable rules for discovery and other procedures for hearings under this paragraph. Before issuing such an order, the Administrator shall give written notice to the person to be assessed an administrative penalty of the Administrator's proposal to issue such order and provide such person an opportunity to request such a hearing on the order, within 30 days of the date the notice is received by such person. The Administrator may compromise, or remit, with or without conditions, any administrative penalty which may be imposed under this section. Regulations.

"(2) DETERMINING AMOUNT.—In determining the amount of any civil penalty assessed under this subsection, the Administrator shall take into account the gravity of the violation, the economic benefit or savings (if any) resulting from the violation, the size of the violator's business, the violator's history of compliance with this title, action taken to remedy the violation, the effect of the penalty on the violator's ability to continue in business, and such other matters as justice may require.

"(3) EFFECT OF ADMINISTRATOR'S ACTION.—(A) Action by the Administrator under this subsection shall not affect or limit the Administrator's authority to enforce any provision of this Act; except that any violation,

"(i) with respect to which the Administrator has commenced and is diligently prosecuting an action under this subsection, or

"(ii) for which the Administrator has issued a final order not subject to further judicial review and the violator has paid a penalty assessment under this subsection,

shall not be the subject of civil penalty action under subsection (b).

"(B) No action by the Administrator under this subsection shall affect any person's obligation to comply with any section of this Act.

"(4) FINALITY OF ORDER.—An order issued under this subsection shall become final 30 days after its issuance unless a petition for judicial review is filed under paragraph (5).

"(5) JUDICIAL REVIEW.—Any person against whom a civil penalty is assessed in accordance with this subsection may seek review of the assessment in the United States District Court for the District of Columbia, or for the district in which the violation is alleged to have occurred, in which such person resides, or where such person's principal place of business is located, within the 30-day period beginning on the date a civil penalty

order is issued. Such person shall simultaneously send a copy of the filing by certified mail to the Administrator and the Attorney General. The Administrator shall file in the court a certified copy, or certified index, as appropriate, of the record on which the order was issued within 30 days. The court shall not set aside or remand any order issued in accordance with the requirements of this subsection unless there is not substantial evidence in the record, taken as a whole, to support the finding of a violation or unless the Administrator's assessment of the penalty constitutes an abuse of discretion, and the court shall not impose additional civil penalties unless the Administrator's assessment of the penalty constitutes an abuse of discretion. In any proceedings, the United States may seek to recover civil penalties assessed under this section.

"(6) COLLECTION.—If any person fails to pay an assessment of a civil penalty imposed by the Administrator as provided in this subsection—

"(A) after the order making the assessment has become final, or

"(B) after a court in an action brought under paragraph (5) has entered a final judgment in favor of the Administrator,

the Administrator shall request the Attorney General to bring a civil action in an appropriate district court to recover the amount assessed (plus interest at rates established pursuant to section 6621(a)(2) of the Internal Revenue Code of 1986 from the date of the final order or the date of the final judgment, as the case may be). In such an action, the validity, amount, and appropriateness of the penalty shall not be subject to review. Any person who fails to pay on a timely basis the amount of an assessment of a civil penalty as described in the first sentence of this paragraph shall be required to pay, in addition to that amount and interest, the United States' enforcement expenses, including attorneys fees and costs for collection proceedings, and a quarterly nonpayment penalty for each quarter during which such failure to pay persists. The nonpayment penalty shall be in an amount equal to 10 percent of the aggregate amount of that person's penalties and nonpayment penalties which are unpaid as of the beginning of such quarter.".

(d) ENFORCEMENT OF FUELS REGULATIONS.—Section 211(d) of the Clean Air Act (42 U.S.C. 7545(d)) is amended to read as follows:

"(d) PENALTIES AND INJUNCTIONS.—

"(1) CIVIL PENALTIES.—Any person who violates subsection (a), (f), (g), (k), (l), (m), or (n) of this section or the regulations prescribed under subsection (c), (h), (i), (k), (l), (m), or (n) of this section or who fails to furnish any information or conduct any tests required by the Administrator under subsection (b) of this section shall be liable to the United States for a civil penalty of not more than the sum of $25,000 for every day of such violation and the amount of economic benefit or savings resulting from the violation. Any violation with respect to a regulation prescribed under subsection (c), (k), (l), or (m) of this section which establishes a regulatory standard based upon a multiday averaging period shall constitute a separate day of violation for each and every day in the averaging period. Civil penalties shall be assessed in accordance with subsections (b) and (c) of section 205.

"(2) INJUNCTIVE AUTHORITY.—The district courts of the United States shall have jurisdiction to restrain violations of subsections (a), (f), (g), (k), (l), (m), and (n) of this section and of the regulations prescribed under subsections (c), (h), (i), (k), (l), (m), and (n) of this section, to award other appropriate relief, and to compel the furnishing of information and the conduct of tests required by the Administrator under subsection (b) of this section. Actions to restrain such violations and compel such actions shall be brought by and in the name of the United States. In any such action, subpoenas for witnesses who are required to attend a district court in any district may run into any other district.".

(e) MISCELLANEOUS ENFORCEMENT.—(1) Section 203(a) of the Clean Air Act is amended as follows: 42 USC 7522.

(1) Insert "or part C in the case of clean-fuel vehicles" before "(except" in paragraph (1).

(2) In paragraph (4) insert "or part C" after "202".

(3) At the end of paragraph (4)(A) insert "or (ii) the corresponding requirements of part C in the case of clean fuel vehicles unless the manufacturer has complied with the corresponding requirements of part C" and in paragraph (4)(A) after "complied with" insert "(i)".

(4) At the end of paragraph (4)(B) insert "or the corresponding requirements of part C in the case of clean fuel vehicles".

(5) In paragraph (4)(C) insert after "207" the following: "and the corresponding requirements of part C in the case of clean fuel vehicles".

(6) In paragraph (4)(D) insert "or the corresponding requirements of part C in the case of clean fuel vehicles" before "with respect to any vehicle".

(7) Strike the period at the end of paragraph (4) and insert "; or" and add the following new paragraph after paragraph (4):

"(5) for any person to violate section 218, 219, or part C of this title or any regulations under section 218, 219, or part C.".

SEC. 229. CLEAN-FUEL VEHICLES.

(a) AMENDMENT TO TITLE II.—Title II of the Clean Air Act is amended by adding the following new part after part B:

"PART C—CLEAN FUEL VEHICLES

"SEC. 241. DEFINITIONS. 42 USC 7581.

"For purposes of this part—

"(1) TERMS DEFINED IN PART A.—The definitions applicable to part A under section 216 shall also apply for purposes of this part.

"(2) CLEAN ALTERNATIVE FUEL.—The term 'clean alternative fuel' means any fuel (including methanol, ethanol, or other alcohols (including any mixture thereof containing 85 percent or more by volume of such alcohol with gasoline or other fuels), reformulated gasoline, diesel, natural gas, liquefied petroleum gas, and hydrogen) or power source (including electricity) used in a clean-fuel vehicle that complies with the standards and requirements applicable to such vehicle under this title when using such fuel or power source. In the case of any flexible fuel vehicle or dual fuel vehicle, the term 'clean alternative fuel' means only a fuel with respect to which such vehicle was

certified as a clean-fuel vehicle meeting the standards applicable to clean-fuel vehicles under section 243(d)(2) when operating on clean alternative fuel (or any CARB standards which replaces such standards pursuant to section 243(e)).

"(3) NMOG.—The term nonmethane organic gas ('NMOG') means the sum of nonoxygenated and oxygenated hydrocarbons contained in a gas sample, including, at a minimum, all oxygenated organic gases containing 5 or fewer carbon atoms (i.e., aldehydes, ketones, alcohols, ethers, etc.), and all known alkanes, alkenes, alkynes, and aromatics containing 12 or fewer carbon atoms. To demonstrate compliance with a NMOG standard, NMOG emissions shall be measured in accordance with the 'California Non-Methane Organic Gas Test Procedures'. In the case of vehicles using fuels other than base gasoline, the level of NMOG emissions shall be adjusted based on the reactivity of the emissions relative to vehicles using base gasoline.

"(4) BASE GASOLINE.—The term 'base gasoline' means gasoline which meets the following specifications:

Specifications of Base Gasoline Used as Basis for Reactivity Readjustment:	
API gravity	57.8
Sulfur, ppm	317
Color	Purple
Benzene, vol. %	1.35
Reid vapor pressure	8.7
Drivability	1195
Antiknock index	87.3
Distillation, D-86 °F	
IBP	92
10%	126
50%	219
90%	327
EP	414
Hydrocarbon Type, Vol. % FIA:	
Aromatics	30.9
Olefins	8.2
Saturates	60.9

The Administrator shall modify the definitions of NMOG, base gasoline, and the methods for making reactivity adjustments, to conform to the definitions and method used in California under the Low-Emission Vehicle and Clean Fuel Regulations of the California Air Resources Board, so long as the California definitions are, in the aggregate, at least as protective of public health and welfare as the definitions in this section.

"(5) COVERED FLEET.—The term 'covered fleet' means 10 or more motor vehicles which are owned or operated by a single person. In determining the number of vehicles owned or operated by a single person for purposes of this paragraph, all motor vehicles owned or operated, leased or otherwise controlled by such person, by any person who controls such person, by any person controlled by such person, and by any person under common control with such person shall be treated as owned by such person. The term 'covered fleet' shall not include motor vehicles held for lease or rental to the general public, motor vehicles held for sale by motor vehicle dealers (including demonstration vehicles), motor vehicles used for motor vehicle manufacturer product evaluations or tests, law enforcement and other emergency vehicles, or nonroad vehicles (including farm and construction vehicles).

"(6) COVERED FLEET VEHICLE.—The term 'covered fleet vehicle' means only a motor vehicle which is—

"(i) in a vehicle class for which standards are applicable under this part; and

"(ii) in a covered fleet which is centrally fueled (or capable of being centrally fueled).

No vehicle which under normal operations is garaged at a personal residence at night shall be considered to be a vehicle which is capable of being centrally fueled within the meaning of this paragraph.

"(7) CLEAN-FUEL VEHICLE.—The term 'clean-fuel vehicle' means a vehicle in a class or category of vehicles which has been certified to meet for any model year the clean-fuel vehicle standards applicable under this part for that model year to clean-fuel vehicles in that class or category.

"SEC. 242. REQUIREMENTS APPLICABLE TO CLEAN FUEL VEHICLES. 42 USC 7582.

"(a) PROMULGATION OF STANDARDS.—Not later than 24 months after the enactment of the Clean Air Act Amendments of 1990, the Administrator shall promulgate regulations under this part containing clean-fuel vehicle standards for the clean-fuel vehicles specified in this part. Regulations.

"(b) OTHER REQUIREMENTS.—Clean-fuel vehicles of up to 8,500 gvwr subject to standards set forth in this part shall comply with all motor vehicle requirements of this title (such as requirements relating to on-board diagnostics, evaporative emissions, etc.) which are applicable to conventional gasoline-fueled vehicles of the same category and model year, except as provided in section 244 with respect to administration and enforcement, and except to the extent that any such requirement is in conflict with the provisions of this part. Clean-fuel vehicles of 8,500 gvwr or greater subject to standards set forth in this part shall comply with all requirements of this title which are applicable in the case of conventional gasoline-fueled or diesel fueled vehicles of the same category and model year, except as provided in section 244 with respect to administration and enforcement, and except to the extent that any such requirement is in conflict with the provisions of this part.

"(c) IN-USE USEFUL LIFE AND TESTING.—(1) In the case of light-duty vehicles and light-duty trucks up to 6,000 lbs gvwr, the useful life for purposes of determining in-use compliance with the standards under section 243 shall be—

"(A) a period of 5 years or 50,000 miles (or the equivalent) whichever first occurs, in the case of standards applicable for purposes of certification at 50,000 miles; and

"(B) a period of 10 years or 100,000 miles (or the equivalent) whichever first occurs, in the case of standards applicable for purposes of certification at 100,000 miles, except that in-use testing shall not be done for a period beyond 7 years or 75,000 miles (or the equivalent) whichever first occurs.

"(2) In the case of light-duty trucks of more than 6,000 lbs gvwr, the useful life for purposes of determining in-use compliance with the standards under section 243 shall be—

"(A) a period of 5 years or 50,000 miles (or the equivalent) whichever first occurs in the case of standards applicable for purposes of certification at 50,000 miles; and

"(B) a period of 11 years or 120,000 miles (or the equivalent) whichever first occurs in the case of standards applicable for

purposes of certification at 120,000 miles, except that in-use testing shall not be done for a period beyond 7 years or 90,000 miles (or the equivalent) whichever first occurs.

42 USC 7583.

"SEC. 243. STANDARDS FOR LIGHT-DUTY CLEAN FUEL VEHICLES.

"(a) EXHAUST STANDARDS FOR LIGHT-DUTY VEHICLES AND CERTAIN LIGHT-DUTY TRUCKS.—The standards set forth in this subsection shall apply in the case of clean-fuel vehicles which are light-duty trucks of up to 6,000 lbs. gross vehicle weight rating (gvwr) (but not including light-duty trucks of more than 3,750 lbs. loaded vehicle weight (lvw)) or light-duty vehicles:

"(1) PHASE I.—Beginning with model year 1996, for the air pollutants specified in the following table, the clean-fuel vehicle standards under this section shall provide that vehicle exhaust emissions shall not exceed the levels specified in the following table:

PHASE I CLEAN FUEL VEHICLE EMISSION STANDARDS FOR LIGHT-DUTY TRUCKS OF UP TO 3,750 LBS. LVW AND UP TO 6,000 LBS. GVWR AND LIGHT-DUTY VEHICLES

Pollutant	NMOG	CO	NO_x	PM	HCHO (formaldehyde)
50,000 mile standard	0.125	3.4	0.4	.....	0.015
100,000 mile standard	0.156	4.2	0.6	0.08*	0.018

Standards are expressed in grams per mile (gpm).
*Standards for particulates (PM) shall apply only to diesel-fueled vehicles.
In the case of the 50,000 mile standards and the 100,000 mile standards, for purposes of certification, the applicable useful life shall be 50,000 miles or 100,000 miles, respectively.

"(2) PHASE II.—Beginning with model year 2001, for air pollutants specified in the following table, the clean-fuel vehicle standards under this section shall provide that vehicle exhaust emissions shall not exceed the levels specified in the following table.

PHASE II CLEAN FUEL VEHICLE EMISSION STANDARDS FOR LIGHT-DUTY TRUCKS OF UP TO 3,750 LBS. LVW AND UP TO 6,000 LBS. GVWR AND LIGHT-DUTY VEHICLES

Pollutant	NMOG	CO	NO_x	PM*	HCHO (formaldehyde)
50,000 mile standard	0.075	3.4	0.2	.....	0.015
100,000 mile standard	0.090	4.2	0.3	0.08	0.018

Standards are expressed in grams per mile (gpm).
*Standards for particulates (PM) shall apply only to diesel-fueled vehicles.
In the case of the 50,000 mile standards and the 100,000 mile standards, for purposes of certification, the applicable useful life shall be 50,000 miles or 100,000 miles, respectively.

"(b) EXHAUST STANDARDS FOR LIGHT-DUTY TRUCKS OF MORE THAN 3,750 LBS. LVW AND UP TO 5,750 LBS. LVW AND UP TO 6,000 LBS. GVWR.—The standards set forth in this paragraph shall apply in

the case of clean-fuel vehicles which are light-duty trucks of more than 3,750 lbs. loaded vehicle weight (lvw) but not more than 5,750 lbs. lvw and not more than 6,000 lbs. gross weight rating (GVWR):

"(1) PHASE I.—Beginning with model year 1996, for the air pollutants specified in the following table, the clean-fuel vehicle standards under this section shall provide that vehicle exhaust emissions shall not exceed the levels specified in the following table.

PHASE I CLEAN FUEL VEHICLE EMISSION STANDARDS FOR LIGHT-DUTY TRUCKS OF MORE THAN 3,750 LBS. AND UP TO 5,750 LBS. LVW AND UP TO 6,000 LBS. GVWR

Pollutant	NMOG	CO	NO_x	PM*	HCHO (formaldehyde)
50,000 mile standard	0.160	4.4	0.7	.....	0.018
100,000 mile standard	0.200	5.5	0.9	0.08	0.023

Standards are expressed in grams per mile (gpm).
*Standards for particulates (PM) shall apply only to diesel-fueled vehicles.
In the case of the 50,000 mile standards and the 100,000 mile standards, for purposes of certification, the applicable useful life shall be 50,000 miles or 100,000 miles, respectively.

"(2) PHASE II.—Beginning with model year 2001, for the air pollutants specified in the following table, the clean-fuel vehicle standards under this section shall provide that vehicle exhaust emissions shall not exceed the levels specified in the following table.

PHASE II CLEAN FUEL VEHICLE EMISSION STANDARDS FOR LIGHT-DUTY TRUCKS OF MORE THAN 3,750 LBS. LVW AND UP TO 5,750 LBS. LVW AND UP TO 6,000 LBS. GVWR

Pollutant	NMOG	CO	NO_x	PM*	HCHO (formaldehyde)
50,000 mile standard	0.100	4.4	0.4	.....	0.018
100,000 mile standard	0.130	5.5	0.5	0.08	0.023

Standards are expressed in grams per mile (gpm).
*Standards for particulates (PM) shall apply only to diesel-fueled vehicles.
In the case of the 50,000 mile standards and the 100,000 mile standards, for purposes of certification, the applicable useful life shall be 50,000 miles or 100,000 miles, respectively.

"(c) EXHAUST STANDARDS FOR LIGHT-DUTY TRUCKS GREATER THAN 6,000 LBS. GVWR.—The standards set forth in this subsection shall apply in the case of clean-fuel vehicles which are light-duty trucks of more than 6,000 lbs. gross weight rating (GVWR) and less than or equal to 8,500 lbs. GVWR, beginning with model year 1998. For the air pollutants specified in the following table, the clean-fuel vehicle standards under this section shall provide that vehicle exhaust emissions of vehicles within the test weight categories specified in the following table shall not exceed the levels specified in such table.

CLEAN FUEL VEHICLE EMISSION STANDARDS FOR LIGHT DUTY TRUCKS GREATER THAN 6,000 LBS. GVWR

Test Weight Category: Up to 3,750 lbs. tw

Pollutant	NMOG	CO	NO_x	PM*	HCHO (formaldehyde)
50,000 mile standard	0.125	3.4	0.4**	.....	0.015
120,000 mile standard	0.180	5.0	0.6	0.08	0.022

Test Weight Category: Above 3,750 but not above 5,750 lbs. tw

Pollutant	NMOG	CO	NO_x	PM*	HCHO (formaldehyde)
50,000 mile standard	0.160	4.4	0.7**	.....	0.018
120,000 mile standard	0.230	6.4	1.0	0.10	0.027

Test Weight Category: Above 5,750 tw but not above 8,500 lbs. gvwr

Pollutant	NMOG	CO	NO_x	PM*	HCHO (formaldehyde)
50,000 mile standard	0.195	5.0	1.1**	.....	0.022
120,000 mile standard	0.280	7.3	1.5	0.12	0.032

Standards are expressed in grams per mile (gpm).
*Standards for particulates (PM) shall apply only to diesel-fueled vehicles.
**Standard not applicable to diesel-fueled vehicles.
For the 50,000 mile standards and the 120,000 mile standards set forth in the table, the applicable useful life for purposes of certification shall be 50,000 miles or 120,000 miles, respectively.

"(d) FLEXIBLE AND DUAL-FUEL VEHICLES.—

"(1) IN GENERAL.—The Administrator shall establish standards and requirements under this section for the model year 1996 and thereafter for vehicles weighing not more than 8,500 lbs. gvwr which are capable of operating on more than one fuel. Such standards shall require that such vehicles meet the exhaust standards applicable under subsection (a), (b), and (c) for CO, NO_x, and HCHO, and if appropriate, PM for single-fuel vehicles of the same vehicle category and model year.

"(2) EXHAUST NMOG STANDARD FOR OPERATION ON CLEAN ALTERNATIVE FUEL.—In addition to standards for the pollutants referred to in paragraph (1), the standards established under paragraph (1) shall require that vehicle exhaust emissions of NMOG not exceed the levels (expressed in grams per mile) specified in the tables below when the vehicle is operated on the clean alternative fuel for which such vehicle is certified:

NMOG STANDARDS FOR FLEXIBLE- AND DUAL-FUELED VEHICLES WHEN OPERATING ON CLEAN ALTERNATIVE FUEL

Light-duty Trucks up to 6,000 lbs. GVWR and Light-duty vehicles

Vehicle Type	Column A (50,000 mi.) Standard (gpm)	Column B (100,000 mi.) Standard (gpm)
Beginning MY 1996:		
LDT's (0-3,750 lbs. LVW) and light-duty vehicles	0.125	0.156
LDT's (3,751-5,750 lbs. LVW)	0.160	0.20
Beginning MY 2001:		
LDT's (0-3,750 lbs. LVW) and light-duty vehicles	0.075	0.090
LDT's (3,751-5,750 lbs. LVW)	0.100	0.130

For standards under column A, for purposes of certification under section 206, the applicable useful life shall be 50,000 miles.

For standards under column B, for purposes of certification under section 206, the applicable useful life shall be 100,000 miles.

Light-duty Trucks More than 6,000 lbs. GVWR

Vehicle Type	Column A (50,000 mi.) Standard	Column B (120,000 mi.) Standard
Beginning MY 1998:		
LDT's (0-3,750 lbs. TW)	0.125	0.180
LDT's (3,751-5,750 lbs. TW)	0.160	0.230
LDT's (above 5,750 lbs. TW)	0.195	0.280

For standards under column A, for purposes of certification under section 206, the applicable useful life shall be 50,000 miles.

For standards under column B, for purposes of certification under section 206, the applicable useful life shall be 120,000 miles.

"(3) NMOG STANDARD FOR OPERATION ON CONVENTIONAL FUEL.—In addition to the standards referred to in paragraph (1), the standards established under paragraph (1) shall require that vehicle exhaust emissions of NMOG not exceed the levels (expressed in grams per mile) specified in the tables below:

NMOG STANDARDS FOR FLEXIBLE- AND DUAL-FUELED VEHICLES WHEN OPERATING ON CONVENTIONAL FUEL

Light-duty Trucks of up to 6,000 lbs. GVWR and Light-duty vehicles

Vehicle Type	Column A (50,000 mi.) Standard (gpm)	Column B (100,000 mi.) Standard (gpm)
Beginning MY 1996:		
LDT's (0-3,750 lbs. LVW) and light-duty vehicles	0.25	0.31
LDT's (3,751-5,750 lbs. LVW)	0.32	0.40

Vehicle Type	Column A (50,000 mi.) Standard (gpm)	Column B (100,000 mi.) Standard (gpm)
Beginning MY 2001:		
LDT's (0-3,750 lbs. LVW) and light-duty vehicles	0.125	0.156
LDT's (3,751-5,750 lbs. LVW)	0.160	0.200

For standards under column A, for purposes of certification under section 206, the applicable useful life shall be 50,000 miles.

For standards under column B, for purposes of certification under section 206, the applicable useful life shall be 100,000 miles.

Light-duty Trucks of up to 6,000 lbs. GVWR

Vehicle Type	Column A (50,000 mi.) Standard	Column B (120,000 mi.) Standard
Beginning MY 1998:		
LDT's (0-3,750 lbs. TW)	0.25	0.36
LDT's (3,751-5,750 lbs. TW)	0.32	0.46
LDT's (above 5,750 lbs. TW)	0.39	0.56

For standards under column A, for purposes of certification under section 206, the applicable useful life shall be 50,000 miles.

For standards under column B, for purposes of certification under section 206, the applicable useful life shall be 120,000 miles.

"(e) REPLACEMENT BY CARB STANDARDS.—

California.

"(1) SINGLE SET OF CARB STANDARDS.—If the State of California promulgates regulations establishing and implementing a single set of standards applicable in California pursuant to a waiver approved under section 209 to any category of vehicles referred to in subsection (a), (b), (c), or (d) of this section and such set of standards is, in the aggregate, at least as protective of public health and welfare as the otherwise applicable standards set forth in section 242 and subsection (a), (b), (c), or (d) of this section, such set of California standards shall apply to clean-fuel vehicles in such category in lieu of the standards otherwise applicable under section 242 and subsection (a), (b), (c), or (d) of this section, as the case may be.

"(2) MULTIPLE SETS OF CARB STANDARDS.—If the State of California promulgates regulations establishing and implementing several different sets of standards applicable in California pursuant to a waiver approved under section 209 to any category of vehicles referred to in subsection (a), (b), (c), or (d) of this section and each of such sets of California standards is, in the aggregate, at least as protective of public health and welfare as the otherwise applicable standards set forth in section 242 and subsection (a), (b), (c), or (d) of this section, such standards shall be treated as 'qualifying California standards' for purposes of this paragraph. Where more than one set of qualifying standards are established and administered by the State of California, the least stringent set of qualifying California standards shall apply to the clean-fuel vehicles concerned in lieu of

the standards otherwise applicable to such vehicles under section 242 and this section.

"(f) LESS STRINGENT CARB STANDARDS.—If the Low-Emission Vehicle and Clean Fuels Regulations of the California Air Resources Board applicable to any category of vehicles referred to in subsection (a), (b), (c), or (d) of this section are modified after the enactment of the Clean Air Act of 1990 to provide an emissions standard which is less stringent than the otherwise applicable standard set forth in subsection (a), (b), (c), or (d), or if any effective date contained in such regulations is delayed, such modified standards or such delay (or both, as the case may be) shall apply, for an interim period, in lieu of the standard or effective date otherwise applicable under subsection (a), (b), (c), or (d) to any vehicles covered by such modified standard or delayed effective date. The interim period shall be a period of not more than 2 model years from the effective date otherwise applicable under subsection (a), (b), (c), or (d). After such interim period, the otherwise applicable standard set forth in subsection (a), (b), (c), or (d) shall take effect with respect to such vehicles (unless subsequently replaced under subsection (e)).

"(g) NOT APPLICABLE TO HEAVY-DUTY VEHICLES.—Notwithstanding any provision of the Low-Emission Vehicle and Clean Fuels Regulations of the California Air Resources Board nothing in this section shall apply to heavy-duty engines in vehicles of more than 8,500 lbs. GVWR.

"SEC. 244. ADMINISTRATION AND ENFORCEMENT AS PER CALIFORNIA STANDARDS. 42 USC 7584.

"Where the numerical clean-fuel vehicle standards applicable under this part to vehicles of not more than 8,500 lbs. GVWR are the same as numerical emission standards applicable in California under the Low-Emission Vehicle and Clean Fuels Regulations of the California Air Resources Board ('CARB'), such standards shall be administered and enforced by the Administrator—

"(1) in the same manner and with the same flexibility as the State of California administers and enforces corresponding standards applicable under the Low-Emission Vehicle and Clean Fuels Regulations of the California Air Resources Board ('CARB'); and

"(2) subject to the same requirements, and utilizing the same interpretations and policy judgments, as are applicable in the case of such CARB standards, including, but not limited to, requirements regarding certification, production-line testing, and in-use compliance,

unless the Administrator determines (in promulgating the rules establishing the clean fuel vehicle program under this section) that any such administration and enforcement would not meet the criteria for a waiver under section 209. Nothing in this section shall apply in the case of standards under section 245 for heavy-duty vehicles.

"SEC. 245. STANDARDS FOR HEAVY-DUTY CLEAN-FUEL VEHICLES (GVWR ABOVE 8,500 UP TO 26,000 LBS). 42 USC 7585.

"(a) MODEL YEARS AFTER 1997; COMBINED NO_x AND NMHC STANDARD.—For classes or categories of heavy-duty vehicles or engines manufactured for the model year 1998 or thereafter and having a GVWR greater than 8,500 lbs. and up to 26,000 lbs. GVWR, the standards under this part for clean-fuel vehicles shall require that

combined emissions of oxides of nitrogen (NO_x) and nonmethane hydrocarbons (NMHC) shall not exceed 3.15 grams per brake horsepower hour (equivalent to 50 percent of the combined emission standards applicable under section 202 for such air pollutants in the case of a conventional model year 1994 heavy-duty diesel-fueled vehicle or engine). No standard shall be promulgated as provided in this section for any heavy-duty vehicle of more than 26,000 lbs. GVWR.

"(b) REVISED STANDARDS THAT ARE LESS STRINGENT.—(1) The Administrator may promulgate a revised less stringent standard for the vehicles or engines referred to in subsection (a) if the Administrator determines that the 50 percent reduction required under subsection (a) is not technologically feasible for clean diesel-fueled vehicles and engines, taking into account durability, costs, lead time, safety, and other relevant factors. To provide adequate lead time the Administrator shall make a determination with regard to the technological feasibility of such 50 percent reduction before December 31, 1993.

"(2) Any person may at any time petition the Administrator to make a determination under paragraph (1). The Administrator shall act on such a petition within 6 months after the petition is filed.

"(3) Any revised less stringent standards promulgated as provided in this subsection shall require at least a 30 percent reduction in lieu of the 50 percent reduction referred to in paragraph (1).

42 USC 7586.

"SEC. 246. CENTRALLY FUELED FLEETS

"(a) FLEET PROGRAM REQUIRED FOR CERTAIN NONATTAINMENT AREAS.—

"(1) SIP REVISION.—Each State in which there is located all or part of a covered area (as defined in paragraph (2)) shall submit, within 42 months after the enactment of the Clean Air Act Amendments of 1990, a State implementation plan revision under section 110 and part D of title I to establish a clean-fuel vehicle program for fleets under this section.

"(2) COVERED AREAS.—For purposes of this subsection, each of the following shall be a 'covered area':

"(A) OZONE NONATTAINMENT AREAS.—Any ozone nonattainment area with a 1980 population of 250,000 or more classified under subpart 2 of part D of title I of this Act as Serious, Severe, or Extreme based on data for the calendar years 1987, 1988, and 1989. In determining the ozone nonattainment areas to be treated as covered areas pursuant to this subparagraph, the Administrator shall use the most recent interpretation methodology issued by the Administrator prior to the enactment of the Clean Air Act Amendments of 1990.

"(B) CARBON MONOXIDE NONATTAINMENT AREAS.—Any carbon monoxide nonattainment area with a 1980 population of 250,000 or more and a carbon monoxide design value at or above 16.0 parts per million based on data for calendar years 1988 and 1989 (as calculated according to the most recent interpretation methodology issued prior to enactment of the Clean Air Act Amendments of 1990 by the United States Environmental Protection Agency), excluding those carbon monoxide nonattainment areas in which mobile sources do not contribute significantly to carbon monoxide exceedances.

"(3) PLAN REVISIONS FOR RECLASSIFIED AREAS.—In the case of ozone nonattainment areas reclassified as Serious, Severe, or Extreme under part D of title I with a 1980 population of 250,000 or more, the State shall submit a plan revision meeting the requirements of this subsection within 1 year after reclassification. Such plan revision shall implement the requirements applicable under this subsection at the time of reclassification and thereafter, except that the Administrator may adjust for a limited period the deadlines for compliance where compliance with such deadlines would be infeasible.

"(4) CONSULTATION; CONSIDERATION OF FACTORS.—Each State required to submit an implementation plan revision under this subsection shall develop such revision in consultation with fleet operators, vehicle manufacturers, fuel producers and distributors, motor vehicle fuel, and other interested parties, taking into consideration operational range, specialty uses, vehicle and fuel availability, costs, safety, resale values of vehicles and equipment and other relevant factors.

"(b) PHASE-IN OF REQUIREMENTS.—The plan revision required under this section shall contain provisions requiring that at least a specified percentage of all new covered fleet vehicles in model year 1998 and thereafter purchased by each covered fleet operator in each covered area shall be clean-fuel vehicles and shall use clean alternative fuels when operating in the covered area. For the applicable model years (MY) specified in the following table and thereafter, the specified percentage shall be as provided in the table for the vehicle types set forth in the table:

CLEAN FUEL VEHICLE PHASE-IN REQUIREMENTS FOR FLEETS

Vehicle Type	MY1998	MY1999	MY2000
Light-duty trucks up to 6,000 lbs. GVWR and light-duty vehicles	30%	50%	70%
Heavy-duty trucks above 8,500 lbs. GVWR	50%	50%	50%

The term MY refers to model year.

"(c) ACCELERATED STANDARD FOR LIGHT-DUTY TRUCKS UP TO 6,000 LBS. GVWR AND LIGHT-DUTY VEHICLES.—Notwithstanding the model years for which clean-fuel vehicle standards are applicable as provided in section 243, for purposes of this section, light duty trucks of up to 6,000 lbs. GVWR and light-duty vehicles manufactured in model years 1998 through model year 2000 shall be treated as clean-fuel vehicles only if such vehicles comply with the standards applicable under section 243 for vehicles in the same class for the model year 2001. The requirements of subsection (b) shall take effect on the earlier of the following: Effective date.

"(1) The first model year after model year 1997 in which new light-duty trucks up to 6,000 lbs. GVWR and light-duty vehicles which comply with the model year 2001 standards under section 243 are offered for sale in California.

"(2) Model year 2001.

Whenever the effective date of subsection (b) is delayed pursuant to paragraph (1) of this subsection, the phase-in schedule under subsec-

tion (b) shall be modified to commence with the model year referred to in paragraph (1) in lieu of model year 1998.

"(d) CHOICE OF VEHICLES AND FUEL.—The plan revision under this subsection shall provide that the choice of clean-fuel vehicles and clean alternative fuels shall be made by the covered fleet operator subject to the requirements of this subsection.

"(e) AVAILABILITY OF CLEAN ALTERNATIVE FUEL.—The plan revision shall require fuel providers to make clean alternative fuel available to covered fleet operators at locations at which covered fleet vehicles are centrally fueled.

"(f) CREDITS.—

"(1) ISSUANCE OF CREDITS.—The State plan revision required under this section shall provide for the issuance by the State of appropriate credits to a fleet operator for any of the following (or any combination thereof):

"(A) The purchase of more clean-fuel vehicles than required under this section.

"(B) The purchase of clean fuel vehicles which meet more stringent standards established by the Administrator pursuant to paragraph (4).

"(C) The purchase of vehicles in categories which are not covered by this section but which meet standards established for such vehicles under paragraph (4).

"(2) USE OF CREDITS; LIMITATIONS BASED ON WEIGHT CLASSES.—

"(A) USE OF CREDITS.—Credits under this subsection may be used by the person holding such credits to demonstrate compliance with this section or may be traded or sold for use by any other person to demonstrate compliance with other requirements applicable under this section in the same nonattainment area. Credits obtained at any time may be held or banked for use at any later time, and when so used, such credits shall maintain the same value as if used at an earlier date.

"(B) LIMITATIONS BASED ON WEIGHT CLASSES.—Credits issued with respect to the purchase of vehicles of up to 8,500 lbs. GVWR may not be used to demonstrate compliance by any person with the requirements applicable under this subsection to vehicles of more than 8,500 lbs. GVWR. Credits issued with respect to the purchase of vehicles of more than 8,500 lbs. GVWR may not be used to demonstrate compliance by any person with the requirements applicable under this subsection to vehicles weighing up to 8,500 lbs. GVWR.

"(C) WEIGHTING.—Credits issued for purchase of a clean fuel vehicle under this subsection shall be adjusted with appropriate weighting to reflect the level of emission reduction achieved by the vehicle.

"(3) REGULATIONS AND ADMINISTRATION.—Within 12 months after the enactment of the Clean Air Act Amendments of 1990, the Administrator shall promulgate regulations for such credit program. The State shall administer the credit program established under this subsection.

"(4) STANDARDS FOR ISSUING CREDITS FOR CLEANER VEHICLES.—Solely for purposes of issuing credits under paragraph (1)(B), the Administrator shall establish under this paragraph standards for Ultra-Low Emission Vehicles ('ULEV's) and Zero Emissions Vehicles ("ZEV's) which shall be more stringent than those otherwise applicable to clean-fuel vehicles under this part. The

Administrator shall certify clean fuel vehicles as complying with such more stringent standards, and administer and enforce such more stringent standards, in the same manner as in the case of the otherwise applicable clean-fuel vehicle standards established under this section. The standards established by the Administrator under this paragraph for vehicles under 8,500 lbs. GVWR or greater shall conform as closely as possible to standards which are established by the State of California for ULEV and ZEV vehicles in the same class. For vehicles of 8,500 lbs. GVWR or more, the Administrator shall promulgate comparable standards for purposes of this subsection.

"(5) EARLY FLEET CREDITS.—The State plan revision shall provide credits under this subsection to fleet operators that purchase vehicles certified to meet clean-fuel vehicle standards under this part during any period after approval of the plan revision and prior to the effective date of the fleet program under this section.

"(g) AVAILABILITY TO THE PUBLIC.—At any facility owned or operated by a department, agency, or instrumentality of the United States where vehicles subject to this subsection are supplied with clean alternative fuel, such fuel shall be offered for sale to the public for use in other vehicles during reasonable business times and subject to national security concerns, unless such fuel is commercially available for vehicles in the vicinity of such Federal facilities.

"(h) TRANSPORTATION CONTROL MEASURES.—The Administrator shall by rule, within 1 year after the enactment of the Clean Air Act Amendments of 1990, ensure that certain transportation control measures including time-of-day or day-of-week restrictions, and other similar measures that restrict vehicle usage, do not apply to any clean-fuel vehicle that meets the requirements of this section. This subsection shall apply notwithstanding title I.

"SEC. 247. VEHICLE CONVERSIONS. 42 USC 7587.

"(a) CONVERSION OF EXISTING AND NEW CONVENTIONAL VEHICLES TO CLEAN-FUEL VEHICLES.—The requirements of section 246 may be met through the conversion of existing or new gasoline or diesel-powered vehicles to clean-fuel vehicles which comply with the applicable requirements of that section. For purposes of such provisions the conversion of a vehicle to clean fuel vehicle shall be treated as the purchase of a clean fuel vehicle. Nothing in this part shall be construed to provide that any covered fleet operator subject to fleet vehicle purchase requirements under section 246 shall be required to convert existing or new gasoline or diesel-powered vehicles to clean-fuel vehicles or to purchase converted vehicles.

"(b) REGULATIONS.—The Administrator shall, within 24 months after the enactment of the Clean Air Act Amendments of 1990, consistent with the requirements of this title applicable to new vehicles, promulgate regulations governing conversions of conventional vehicles to clean-fuel vehicles. Such regulations shall establish criteria for such conversions which will ensure that a converted vehicle will comply with the standards applicable under this part to clean-fuel vehicles. Such regulations shall provide for the application to such conversions of the same provisions of this title (including provisions relating to administration enforcement) as are applicable to standards under section 242, 243, 244, and 245, except that in the case of conversions the Administrator may modify the

applicable regulations implementing such provisions as the Administrator deems necessary to implement this part.

"(c) ENFORCEMENT.—Any person who converts conventional vehicles to clean fuel vehicles pursuant to subsection (b), shall be considered a manufacturer for purposes of sections 206 and 207 and related enforcement provisions. Nothing in the preceding sentence shall require a person who performs such conversions to warrant any part or operation of a vehicle other than as required under this part. Nothing in this paragraph shall limit the applicability of any other warranty to unrelated parts or operations.

"(d) TAMPERING.—The conversion from a vehicle capable of operating on gasoline or diesel fuel only to a clean-fuel vehicle shall not be considered a violation of section 203(a)(3) if such conversion complies with the regulations promulgated under subsection (b).

"(e) SAFETY.—The Secretary of Transportation shall, if necessary, promulgate rules under applicable motor vehicle laws regarding the safety of vehicles converted from existing and new vehicles to clean-fuel vehicles.

42 USC 7588.

"SEC. 248. FEDERAL AGENCY FLEETS.

"(a) ADDITIONAL PROVISIONS APPLICABLE.—The provisions of this section shall apply, in addition to the other provisions of this part, in the case of covered fleet vehicles owned or operated by an agency, department, or instrumentality of the United States, except as otherwise provided in subsection (e).

"(b) COST OF VEHICLES TO FEDERAL AGENCY.—Notwithstanding the provisions of section 211 of the Federal Property and Administrative Services Act of 1949, the Administrator of General Services shall not include the incremental costs of clean-fuel vehicles in the amount to be reimbursed by Federal agencies if the Administrator of General Services determines that appropriations provided pursuant to this paragraph are sufficient to provide for the incremental cost of such vehicles over the cost of comparable conventional vehicles.

"(c) LIMITATIONS ON APPROPRIATIONS.—Funds appropriated pursuant to the authorization under this paragraph shall be applicable only—

"(1) to the portion of the cost of acquisition, maintenance and operation of vehicles acquired under this subparagraph which exceeds the cost of acquisition, maintenance and operation of comparable conventional vehicles;

"(2) to the portion of the costs of fuel storage and dispensing equipment attributable to such vehicles which exceeds the costs for such purposes required for conventional vehicles; and

"(3) to the portion of the costs of acquisition of clean-fuel vehicles which represents a reduction in revenue from the disposal of such vehicles as compared to revenue resulting from the disposal of comparable conventional vehicles.

"(d) VEHICLE COSTS.—The incremental cost of vehicles acquired under this part over the cost of comparable conventional vehicles shall not be applied to any calculation with respect to a limitation under law on the maximum cost of individual vehicles which may be required by the United States.

"(e) EXEMPTIONS.—The requirements of this part shall not apply to vehicles with respect to which the Secretary of Defense has certified to the Administrator that an exemption is needed based on national security consideration.

"(f) ACQUISITION REQUIREMENT.—Federal agencies, to the extent practicable, shall obtain clean-fuel vehicles from original equipment manufacturers.

"(g) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated such sums as may be required to carry out the provisions of this section: *Provided*, That such sums as are appropriated for the Administrator of General Services pursuant to the authorization under this section shall be added to the General Supply Fund established in section 109 of the Federal Property and Administrative Services Act of 1949.

"SEC. 249. CALIFORNIA PILOT TEST PROGRAM. 42 USC 7589.

"(a) ESTABLISHMENT.—The Administrator shall establish a pilot program in the State of California to demonstrate the effectiveness of clean-fuel vehicles in controlling air pollution in ozone nonattainment areas.

"(b) APPLICABILITY.—The provisions of this section shall only apply to light-duty trucks and light-duty vehicles, and such provisions shall apply only in the State of California, except as provided in subsection (f).

"(c) PROGRAM REQUIREMENTS.—Not later than 24 months after the enactment of the Clean Air Act Amendments of 1990, the Administrator shall promulgate regulations establishing requirements under this section applicable in the State of California. The regulations shall provide the following: Regulations.

"(1) CLEAN-FUEL VEHICLES.—Clean-fuel vehicles shall be produced, sold, and distributed (in accordance with normal business practices and applicable franchise agreements) to ultimate purchasers in California (including owners of covered fleets referred to in section 246) in numbers that meet or exceed the following schedule:

Model Years	Number of Clean-Fuel Vehicles
1996, 1997, 1998	150,000 vehicles
1999 and thereafter	300,000 vehicles

"(2) CLEAN ALTERNATIVE FUELS.—(A) Within 2 years after the enactment of the Clean Air Act Amendments of 1990, the State of California shall submit a revision of the applicable implementation plan under part D of title I and section 110 containing a clean fuel plan that requires that clean alternative fuels on which the clean-fuel vehicles required under this paragraph can operate shall be produced and distributed by fuel suppliers and made available in California. At a minimum, sufficient clean alternative fuels shall be produced, distributed and made available to assure that all clean-fuel vehicles required under this section can operate, to the maximum extent practicable, exclusively on such fuels in California. The State shall require that clean alternative fuels be made available and offered for sale at an adequate number of locations with sufficient geographic distribution to ensure convenient refueling

with clean alternative fuels, considering the number of, and type of, such vehicles sold and the geographic distribution of such vehicles within the State. The State shall determine the clean alternative fuels to be produced, distributed, and made available based on motor vehicle manufacturers' projections of future sales of such vehicles and consultations with the affected local governments and fuel suppliers.

"(B) The State may by regulation grant persons subject to the requirements prescribed under this paragraph an appropriate amount of credits for exceeding such requirements, and any person granted credits may transfer some or all of the credits for use by one or more persons in demonstrating compliance with such requirements. The State may make the credits available for use after consideration of enforceability, environmental, and economic factors and upon such terms and conditions as the State finds appropriate.

"(C) The State may also by regulation establish specifications for any clean alternative fuel produced and made available under this paragraph as the State finds necessary to reduce or eliminate an unreasonable risk to public health, welfare, or safety associated with its use or to ensure acceptable vehicle maintenance and performance characteristics.

"(D) If a retail gasoline dispensing facility would have to remove or replace one or more motor vehicle fuel underground storage tanks and accompanying piping in order to comply with the provisions of this section, and it had removed and replaced such tank or tanks and accompanying piping in order to comply with subtitle I of the Solid Waste Disposal Act prior to the date of the enactment of the Clean Air Act Amendments of 1990, it shall not be required to comply with this subsection until a period of 7 years has passed from the date of the removal and replacement of such tank or tanks.

"(E) Nothing in this section authorizes any State other than California to adopt provisions regarding clean alternative fuels.

"(F) If the State of California fails to adopt a clean fuel program that meets the requirements of this paragraph, the Administrator shall, within 4 years after the enactment of the Clean Air Act Amendments of 1990, establish a clean fuel program for the State of California under this paragraph and section 110(c) that meets the requirements of this paragraph.

"(d) CREDITS FOR MOTOR VEHICLE MANUFACTURERS.—(1) The Administrator may (by regulation) grant a motor vehicle manufacturer an appropriate amount of credits toward fulfillment of such manufacturer's share of the requirements of subsection (c)(1) of this section for any of the following (or any combination thereof):

"(A) The sale of more clean-fuel vehicles than required under subsection (c)(1) of this section.

"(B) The sale of clean fuel vehicles which meet standards established by the Administrator as provided in paragraph (3) which are more stringent than the clean-fuel vehicle standards otherwise applicable to such clean-fuel vehicle. A manufacturer granted credits under this paragraph may transfer some or all of the credits for use by one or more other manufacturers in demonstrating compliance with the requirements prescribed under this paragraph. The Administrator may make the credits available for use after consideration of enforceability, environmental, and economic factors and upon such terms and condi-

tions as he finds appropriate. The Administrator shall grant credits in accordance with this paragraph, notwithstanding any requirements of State law or any credits granted with respect to the same vehicles under any State law, rule, or regulation.

"(2) REGULATIONS AND ADMINISTRATION.—The Administrator shall administer the credit program established under this subsection. Within 12 months after the enactment of the Clean Air Act Amendments of 1990, the Administrator shall promulgate regulations for such credit program.

"(3) STANDARDS FOR ISSUING CREDITS FOR CLEANER VEHICLES.—The more stringent standards and other requirements (including requirements relating to the weighting of credits) established by the Administrator for purposes of the credit program under 245(e) (relating to credits for clean fuel vehicles in the fleets program) shall also apply for purposes of the credit program under this paragraph.

"(e) PROGRAM EVALUATION.—(1) Not later than June 30, 1994 and again in connection with the report under paragraph (2), the Administrator shall provide a report to the Congress on the status of the California Air Resources Board Low-Emissions Vehicles and Clean Fuels Program. Such report shall examine the capability, from a technological standpoint, of motor vehicle manufacturers and motor vehicle fuel suppliers to comply with the requirements of such program and with the requirements of the California Pilot Program under this section. Reports.

"(2) Not later than June 30, 1998, the Administrator shall complete and submit a report to Congress on the effectiveness of the California pilot program under this section. The report shall evaluate the level of emission reductions achieved under the program, the costs of the program, the advantages and disadvantages of extending the program to other nonattainment areas, and desirability of continuing or expanding the program in California. Reports.

"(3) The program under this section cannot be extended or terminated by the Administrator except by Act of Congress enacted after the date of the Clean Air Act Amendments of 1990. Section 177 of this Act does not apply to the program under this section.

"(f) VOLUNTARY OPT-IN FOR OTHER STATES.—

"(1) EPA REGULATIONS.—Not later than 2 years after the enactment of the Clean Air Act Amendments of 1990, the Administrator shall promulgate regulations establishing a voluntary opt-in program under this subsection pursuant to which—

"(A) clean-fuel vehicles which are required to be produced, sold, and distributed in the State of California under this section, and

"(B) clean alternative fuels required to be produced and distributed under this section by fuel suppliers and made available in California

may also be sold and used in other States which submit plan revisions under paragraph (2).

"(2) PLAN REVISIONS.—Any State in which there is located all or part of an ozone nonattainment area classified under subpart D of title I as Serious, Severe, or Extreme may submit a revision of the applicable implementation plan under part D of title I and section 110 to provide incentives for the sale or use in such an area or State of clean-fuel vehicles which are required to be produced, sold, and distributed in the State of California, and for the use in such an area or State of clean alternative fuels

required to be produced and distributed by fuel suppliers and made available in California. Such plan provisions shall not take effect until 1 year after the State has provided notice of such provisions to motor vehicle manufacturers and to fuel suppliers.

"(3) INCENTIVES.—The incentives referred to in paragraph (2) may include any or all of the following:

"(A) A State registration fee on new motor vehicles registered in the State which are not clean-fuel vehicles in the amount of at least 1 percent of the cost of the vehicle. The proceeds of such fee shall be used to provide financial incentives to purchasers of clean-fuel vehicles and to vehicle dealers who sell high volumes or high percentages of clean-fuel vehicles and to defray the administrative costs of the incentive program.

"(B) Provisions to exempt clean-fuel vehicles from high occupancy vehicle or trip reduction requirements.

"(C) Provisions to provide preference in the use of existing parking spaces for clean-fuel vehicles.

The incentives under this paragraph shall not apply in the case of covered fleet vehicles.

"(4) NO SALES OR PRODUCTION MANDATE.—The regulations and plan revisions under paragraphs (1) and (2) shall not include any production or sales mandate for clean-fuel vehicles or clean alternative fuels. Such regulations and plan revisions shall also provide that vehicle manufacturers and fuel suppliers may not be subject to penalties or sanctions for failing to produce or sell clean-fuel vehicles or clean alternative fuels.

42 USC 7590.

"SEC. 250. GENERAL PROVISIONS.

"(a) STATE REFUELING FACILITIES.—If any State adopts enforceable provisions in an implementation plan applicable to a nonattainment area which provides that existing State refueling facilities will be made available to the public for the purchase of clean alternative fuels or that State-operated refueling facilities for such fuels will be constructed and operated by the State and made available to the public at reasonable times, taking into consideration safety, costs, and other relevant factors, in approving such plan under section 110 and part D, the Administrator may credit a State with the emission reductions for purposes of part D attributable to such actions.

"(b) NO PRODUCTION MANDATE.—The Administrator shall have no authority under this part to mandate the production of clean-fuel vehicles except as provided in the California pilot test program or to specify as applicable the models, lines, or types of, or marketing or price practices, policies, or strategies for, vehicles subject to this part. Nothing in this part shall be construed to give the Administrator authority to mandate marketing or pricing practices, policies, or strategies for fuels.

Regulations.

"(c) TANK AND FUEL SYSTEM SAFETY.—The Secretary of Transportation shall, in accordance with the National Motor Vehicle Traffic Safety Act of 1966, promulgate applicable regulations regarding the safety and use of fuel storage cylinders and fuel systems, including appropriate testing and retesting, in conversions of motor vehicles.

"(d) CONSULTATION WITH DEPARTMENT OF ENERGY AND DEPARTMENT OF TRANSPORTATION.—The Administrator shall coordinate with the Secretaries of the Department of Energy and the Depart-

ment of Transportation in carrying out the Administrator's duties under this part.".

SEC. 230. TECHNICAL AMENDMENTS.

The Clean Air Act is amended as follows:

(1) In section 202(b)(3), strike out subparagraph (B).

(2) Strike out section 202(b)(4) (42 U.S.C. 7521(b)(4)).

(3) Strike out section 202(b)(5) (42 U.S.C. 7521(b)(5)).

(4) In section 202(b)(6) (42 U.S.C. 7521(b)(6))—

(A) strike out "(A)" after "(6)",

(B) strike out subparagraph (B), and

(C) redesignate paragraph (6) as paragraph (3) and redesignate clauses (i) through (iii) as subparagraphs (A) through (C).

(5) Strike out section 202(b)(7) (42 U.S.C. 7521(b)(7)).

(6) Strike out section 203(c) (42 U.S.C. 7522(c)).

(7) Strike out "announce in the Federal Register and" in section 206(e) (42 U.S.C. 7525(e)).

(8) In section 206(f) (42 U.S.C. 7525(f))—

(A) strike out "(1)" after "(f)",

(B) strike out paragraph (2), and

(C) insert "and all light-duty trucks manufactured during or after model year 1995" immediately after "1984".

(9) In section 207(g) strike out "(but not designed for emission control under the terms of the last three sentences of section 207(a)(1)" and insert "(but not designed for emission control under the terms of the last sentence of section 207(a)(3))". 42 USC 7541.

(10) Strike out section 212. 42 USC 7546.

PART B—OTHER PROVISIONS

SEC. 231. ETHANOL SUBSTITUTE FOR DIESEL.

Within one year after the enactment of the Clean Air Act Amendments of 1990, the Administrator shall contract with a laboratory which has done research on alcohol esters of rapeseed oil to evaluate the feasibility, engine performance, emissions, and production capability associated with an alternative to diesel fuel composed of ethanol and high erucic rapeseed oil. The Administrator shall submit a report on the results of this research to Congress within 3 years of the issuance of such contract. Government contracts. Reports.

SEC. 232. ADOPTION BY OTHER STATES OF CALIFORNIA STANDARDS.

Section 177 of the Clean Air Act (42 U.S.C. 7507) is amended by adding the following at the end thereof:

"Nothing in this section or in title II of this Act shall be construed as authorizing any such State to prohibit or limit, directly or indirectly, the manufacture or sale of a new motor vehicle or motor vehicle engine that is certified in California as meeting California standards, or to take any action of any kind to create, or have the effect of creating, a motor vehicle or motor vehicle engine different than a motor vehicle or engine certified in California under California standards (a 'third vehicle') or otherwise create such a 'third vehicle'."

SEC. 233. STATES AUTHORITY TO REGULATE. 42 USC 7571 note.

(a) STUDY.—The Administrator of the Environmental Protection Agency and the Secretary of Transportation, in consultation with Aircraft.

the Secretary of Defense, shall commence a study and investigation of the testing of uninstalled aircraft engines in enclosed test cells that shall address at a minimum the following issues and such other issues as they shall deem appropriate—

(1) whether technologies exist to control some or all emissions of oxides of nitrogen from test cells;

(2) the effectiveness of such technologies;

(3) the cost of implementing such technologies;

(4) whether such technologies affect the safety, design, structure, operation, or performance of aircraft engines;

(5) whether such technologies impair the effectiveness and accuracy of aircraft engine safety design, and performance tests conducted in test cells; and

(6) the impact of not controlling such oxides of nitrogen in the applicable nonattainment areas and on other sources, stationary and mobile, on oxides of nitrogen in such areas.

(b) REPORT, AUTHORITY TO REGULATE.—Not later than 24 months after enactment of the Clean Air Act Amendments of 1990, the Administrator of the Environmental Protection Agency and the Secretary of Transportation shall submit to Congress a report of the study conducted under this section. Following the completion of such study, any of the States may adopt or enforce any standard for emissions of oxides of nitrogen from test cells only after issuing a public notice stating whether such standards are in accordance with the findings of the study.

SEC. 234. FUGITIVE DUST.

(a) Prior to any use of the Industrial Source Complex (ISC) Model using AP-42 Compilation of Air Pollutant Emission Factors to determine the effect on air quality of fugitive particulate emissions from surface coal mines, for purposes of new source review or for purposes of demonstrating compliance with national ambient air quality standards for particulate matter applicable to periods of 24 hours or less, under section 110 or parts C or D of title I of the Clean Air Act, the Administrator shall analyze the accuracy of such model and emission factors and make revisions as may be necessary to eliminate any significant over-prediction of air quality effect of fugitive particulate emissions from such sources. Such revisions shall be completed not later than 3 years after the date of enactment of the Clean Air Act Amendments of 1990. Until such time as the Administrator develops a revised model for surface mine fugitive emissions, the State may use alternative empirical based modeling approaches pursuant to guidelines issued by the Administrator.".

SEC. 235. FEDERAL COMPLIANCE.

42 USC 7418.

Section 118 of the Clean Air Act is amended by inserting "GENERAL COMPLIANCE.—" after "SEC. 118. (a)" and by adding at the end thereof the following:

"(c) GOVERNMENT VEHICLES.—Each department, agency, and instrumentality of executive, legislative, and judicial branches of the Federal Government shall comply with all applicable provisions of a valid inspection and maintenance program established under the provisions of subpart 2 of part D or subpart 3 of part D except for such vehicles that are considered military tactical vehicles.

"(d) VEHICLES OPERATED ON FEDERAL INSTALLATIONS.—Each department, agency, and instrumentality of executive, legislative,

and judicial branches of the Federal Government having jurisdiction over any property or facility shall require all employees which operate motor vehicles on the property or facility to furnish proof of compliance with the applicable requirements of any vehicle inspection and maintenance program established under the provisions of subpart 2 of part D or subpart 3 of part D for the State in which such property or facility is located (without regard to whether such vehicles are registered in the State). The installation shall use one of the following methods to establish proof of compliance—

"(1) presentation by the vehicle owner of a valid certificate of compliance from the vehicle inspection and maintenance program;

"(2) presentation by the vehicle owner of proof of vehicle registration within the geographic area covered by the vehicle inspection and maintenance program (except for any program whose enforcement mechanism is not through the denial of vehicle registration);

"(3) another method approved by the vehicle inspection and maintenance program administrator.".

TITLE III—HAZARDOUS AIR POLLUTANTS

Sec. 301. Hazardous Air Pollutants.
Sec. 302. Conforming Amendment.
Sec. 303. Risk Assessment and Management Commission.
Sec. 304. Chemical Process Safety Management.
Sec. 305. Solid Waste Combustion.
Sec. 306. Ash Management and Disposal.

SEC. 301. HAZARDOUS AIR POLLUTANTS.

Section 112 of the Clean Air Act is amended to read as follows: 42 USC 7412.

"SEC. 112. HAZARDOUS AIR POLLUTANTS.

"(a) DEFINITIONS.—For purposes of this section, except subsection (r)—

"(1) MAJOR SOURCE.—The term 'major source' means any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants. The Administrator may establish a lesser quantity, or in the case of radionuclides different criteria, for a major source than that specified in the previous sentence, on the basis of the potency of the air pollutant, persistence, potential for bioaccumulation, other characteristics of the air pollutant, or other relevant factors.

"(2) AREA SOURCE.—The term 'area source' means any stationary source of hazardous air pollutants that is not a major source. For purposes of this section, the term 'area source' shall not include motor vehicles or nonroad vehicles subject to regulation under title II.

"(3) STATIONARY SOURCE.—The term 'stationary source' shall have the same meaning as such term has under section 111(a).

"(4) NEW SOURCE.—The term 'new source' means a stationary source the construction or reconstruction of which is commenced after the Administrator first proposes regulations

under this section establishing an emission standard applicable to such source.

"(5) MODIFICATION.—The term 'modification' means any physical change in, or change in the method of operation of, a major source which increases the actual emissions of any hazardous air pollutant emitted by such source by more than a de minimis amount or which results in the emission of any hazardous air pollutant not previously emitted by more than a de minimis amount.

"(6) HAZARDOUS AIR POLLUTANT.—The term 'hazardous air pollutant' means any air pollutant listed pursuant to subsection (b).

"(7) ADVERSE ENVIRONMENTAL EFFECT.—The term 'adverse environmental effect' means any significant and widespread adverse effect, which may reasonably be anticipated, to wildlife, aquatic life, or other natural resources, including adverse impacts on populations of endangered or threatened species or significant degradation of environmental quality over broad areas.

"(8) ELECTRIC UTILITY STEAM GENERATING UNIT.—The term 'electric utility steam generating unit' means any fossil fuel fired combustion unit of more than 25 megawatts that serves a generator that produces electricity for sale. A unit that cogenerates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 megawatts electrical output to any utility power distribution system for sale shall be considered an electric utility steam generating unit.

"(9) OWNER OR OPERATOR.—The term 'owner or operator' means any person who owns, leases, operates, controls, or supervises a stationary source.

"(10) EXISTING SOURCE.—The term 'existing source' means any stationary source other than a new source.

"(11) CARCINOGENIC EFFECT.—Unless revised, the term 'carcinogenic effect' shall have the meaning provided by the Administrator under Guidelines for Carcinogenic Risk Assessment as of the date of enactment. Any revisions in the existing Guidelines shall be subject to notice and opportunity for comment.

"(b) LIST OF POLLUTANTS.—

"(1) INITIAL LIST.—The Congress establishes for purposes of this section a list of hazardous air pollutants as follows:

CAS number	Chemical name
75070	Acetaldehyde
60355	Acetamide
75058	Acetonitrile
98862	Acetophenone
53963	2-Acetylaminofluorene
107028	Acrolein
79061	Acrylamide
79107	Acrylic acid
107131	Acrylonitrile
107051	Allyl chloride
92671	4-Aminobiphenyl
62533	Aniline
90040	o-Anisidine
1332214	Asbestos

CAS number	Chemical name
71432	Benzene (including benzene from gasoline)
92875	Benzidine
98077	Benzotrichloride
100447	Benzyl chloride
92524	Biphenyl
117817	Bis(2-ethylhexyl)phthalate (DEHP)
542881	Bis(chloromethyl)ether
75252	Bromoform
106990	1,3-Butadiene
156627	Calcium cyanamide
105602	Caprolactam
133062	Captan
63252	Carbaryl
75150	Carbon disulfide
56235	Carbon tetrachloride
463581	Carbonyl sulfide
120809	Catechol
133904	Chloramben
57749	Chlordane
7782505	Chlorine
79118	Chloroacetic acid
532274	2-Chloroacetophenone
108907	Chlorobenzene
510156	Chlorobenzilate
67663	Chloroform
107302	Chloromethyl methyl ether
126998	Chloroprene
1319773	Cresols/Cresylic acid (isomers and mixture)
95487	o-Cresol
108394	m-Cresol
106445	p-Cresol
98828	Cumene
94757	2,4-D, salts and esters
3547044	DDE
334883	Diazomethane
132649	Dibenzofurans
96128	1,2-Dibromo-3-chloropropane
84742	Dibutylphthalate
106467	1,4-Dichlorobenzene(p)
91941	3,3-Dichlorobenzidene
111444	Dichloroethyl ether (Bis(2-chloroethyl)ether)
542756	1,3-Dichloropropene
62737	Dichlorvos
111422	Diethanolamine
121697	N,N-Diethyl aniline (N,N-Dimethylaniline)
64675	Diethyl sulfate
119904	3,3-Dimethoxybenzidine
60117	Dimethyl aminoazobenzene
119937	3,3'-Dimethyl benzidine
79447	Dimethyl carbamoyl chloride
68122	Dimethyl formamide
57147	1,1-Dimethyl hydrazine
131113	Dimethyl phthalate
77781	Dimethyl sulfate
534521	4,6-Dinitro-o-cresol, and salts
51285	2,4-Dinitrophenol
121142	2,4-Dinitrotoluene
123911	1,4-Dioxane (1,4-Diethyleneoxide)
122667	1,2-Diphenylhydrazine
106898	Epichlorohydrin (l-Chloro-2,3-epoxypropane)
106887	1,2-Epoxybutane
140885	Ethyl acrylate
100414	Ethyl benzene
51796	Ethyl carbamate (Urethane)
75003	Ethyl chloride (Chloroethane)
106934	Ethylene dibromide (Dibromoethane)
107062	Ethylene dichloride (1,2-Dichloroethane)
107211	Ethylene glycol

CAS number	Chemical name
151564	Ethylene imine (Aziridine)
75218	Ethylene oxide
96457	Ethylene thiourea
75343	Ethylidene dichloride (1,1-Dichloroethane)
50000	Formaldehyde
76448	Heptachlor
118741	Hexachlorobenzene
87683	Hexachlorobutadiene
77474	Hexachlorocyclopentadiene
67721	Hexachloroethane
822060	Hexamethylene-1,6-diisocyanate
680319	Hexamethylphosphoramide
110543	Hexane
302012	Hydrazine
7647010	Hydrochloric acid
7664393	Hydrogen fluoride (Hydrofluoric acid)
7783064	Hydrogen sulfide
123319	Hydroquinone
78591	Isophorone
58899	Lindane (all isomers)
108316	Maleic anhydride
67561	Methanol
72435	Methoxychlor
74839	Methyl bromide (Bromomethane)
74873	Methyl chloride (Chloromethane)
71556	Methyl chloroform (1,1,1-Trichloroethane)
78933	Methyl ethyl ketone (2-Butanone)
60344	Methyl hydrazine
74884	Methyl iodide (Iodomethane)
108101	Methyl isobutyl ketone (Hexone)
624839	Methyl isocyanate
80626	Methyl methacrylate
1634044	Methyl tert butyl ether
101144	4,4-Methylene bis(2-chloroaniline)
75092	Methylene chloride (Dichloromethane)
101688	Methylene diphenyl diisocyanate (MDI)
101779	4,4'-Methylenedianiline
91203	Naphthalene
98953	Nitrobenzene
92933	4-Nitrobiphenyl
100027	4-Nitrophenol
79469	2-Nitropropane
684935	N-Nitroso-N-methylurea
62759	N-Nitrosodimethylamine
59892	N-Nitrosomorpholine
56382	Parathion
82688	Pentachloronitrobenzene (Quintobenzene)
87865	Pentachlorophenol
108952	Phenol
106503	p-Phenylenediamine
75445	Phosgene
7803512	Phosphine
7723140	Phosphorus
85449	Phthalic anhydride
1336363	Polychlorinated biphenyls (Aroclors)
1120714	1,3-Propane sultone
57578	beta-Propiolactone
123386	Propionaldehyde
114261	Propoxur (Baygon)
78875	Propylene dichloride (1,2-Dichloropropane)
75569	Propylene oxide
75558	1,2-Propylenimine (2-Methyl aziridine)
91225	Quinoline
106514	Quinone
100425	Styrene
96093	Styrene oxide
1746016	2,3,7,8-Tetrachlorodibenzo-p-dioxin
79345	1,1,2,2-Tetrachloroethane

CAS number	Chemical name
127184	Tetrachloroethylene (Perchloroethylene)
7550450	Titanium tetrachloride
108883	Toluene
95807	2,4-Toluene diamine
584849	2,4-Toluene diisocyanate
95534	o-Toluidine
8001352	Toxaphene (chlorinated camphene)
120821	1,2,4-Trichlorobenzene
79005	1,1,2-Trichloroethane
79016	Trichloroethylene
95954	2,4,5-Trichlorophenol
88062	2,4,6-Trichlorophenol
121448	Triethylamine
1582098	Trifluralin
540841	2,2,4-Trimethylpentane
108054	Vinyl acetate
593602	Vinyl bromide
75014	Vinyl chloride
75354	Vinylidene chloride (1,1-Dichloroethylene)
1330207	Xylenes (isomers and mixture)
95476	o-Xylenes
108383	m-Xylenes
106423	p-Xylenes
0	Antimony Compounds
0	Arsenic Compounds (inorganic including arsine)
0	Beryllium Compounds
0	Cadmium Compounds
0	Chromium Compounds
0	Cobalt Compounds
0	Coke Oven Emissions
0	Cyanide Compounds [1]
0	Glycol ethers [2]
0	Lead Compounds
0	Manganese Compounds
0	Mercury Compounds
0	Fine mineral fibers [3]
0	Nickel Compounds
0	Polycylic Organic Matter [4]
0	Radionuclides (including radon) [5]
0	Selenium Compounds

NOTE: For all listings above which contain the word "compounds" and for glycol ethers, the following applies: Unless otherwise specified, these listings are defined as including any unique chemical substance that contains the named chemical (i.e., antimony, arsenic, etc.) as part of that chemical's infrastructure.

[1] X'CN where X = H' or any other group where a formal dissociation may occur. For example KCN or $Ca(CN)_2$

[2] Includes mono- and di- ethers of ethylene glycol, diethylene glycol, and triethylene glycol R-$(OCH2CH2)_n$-OR' where

n = 1, 2, or 3

R = alkyl or aryl groups

R' = R, H, or groups which, when removed, yield glycol ethers with the structure: R-$(OCH2CH)_n$-OH. Polymers are excluded from the glycol category.

[3] Includes mineral fiber emissions from facilities manufacturing or processing glass, rock, or slag fibers (or other mineral derived fibers) of average diameter 1 micrometer or less.

[4] Includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100°C.

[5] A type of atom which spontaneously undergoes radioactive decay.

"(2) REVISION OF THE LIST.—The Administrator shall periodically review the list established by this subsection and publish the results thereof and, where appropriate, revise such list by rule, adding pollutants which present, or may present, through inhalation or other routes of exposure, a threat of adverse human health effects (including, but not limited to, substances which are known to be, or may reasonably be anticipated to be,

carcinogenic, mutagenic, teratogenic, neurotoxic, which cause reproductive dysfunction, or which are acutely or chronically toxic) or adverse environmental effects whether through ambient concentrations, bioaccumulation, deposition, or otherwise, but not including releases subject to regulation under subsection (r) as a result of emissions to the air. No air pollutant which is listed under section 108(a) may be added to the list under this section, except that the prohibition of this sentence shall not apply to any pollutant which independently meets the listing criteria of this paragraph and is a precursor to a pollutant which is listed under section 108(a) or to any pollutant which is in a class of pollutants listed under such section. No substance, practice, process or activity regulated under title VI of this Act shall be subject to regulation under this section solely due to its adverse effects on the environment.

"(3) PETITIONS TO MODIFY THE LIST.—

"(A) Beginning at any time after 6 months after the date of enactment of the Clean Air Act Amendments of 1990, any person may petition the Administrator to modify the list of hazardous air pollutants under this subsection by adding or deleting a substance or, in case of listed pollutants without CAS numbers (other than coke oven emissions, mineral fibers, or polycyclic organic matter) removing certain unique substances. Within 18 months after receipt of a petition, the Administrator shall either grant or deny the petition by publishing a written explanation of the reasons for the Administrator's decision. Any such petition shall include a showing by the petitioner that there is adequate data on the health or environmental defects of the pollutant or other evidence adequate to support the petition. The Administrator may not deny a petition solely on the basis of inadequate resources or time for review.

"(B) The Administrator shall add a substance to the list upon a showing by the petitioner or on the Administrator's own determination that the substance is an air pollutant and that emissions, ambient concentrations, bioaccumulation or deposition of the substance are known to cause or may reasonably be anticipated to cause adverse effects to human health or adverse environmental effects.

"(C) The Administrator shall delete a substance from the list upon a showing by the petitioner or on the Administrator's own determination that there is adequate data on the health and environmental effects of the substance to determine that emissions, ambient concentrations, bioaccumulation or deposition of the substance may not reasonably be anticipated to cause any adverse effects to the human health or adverse environmental effects.

"(D) The Administrator shall delete one or more unique chemical substances that contain a listed hazardous air pollutant not having a CAS number (other than coke oven emissions, mineral fibers, or polycyclic organic matter) upon a showing by the petitioner or on the Administrator's own determination that such unique chemical substances that contain the named chemical of such listed hazardous air pollutant meet the deletion requirements of subparagraph (C). The Administrator must grant or deny a deletion

petition prior to promulgating any emission standards pursuant to subsection (d) applicable to any source category or subcategory of a listed hazardous air pollutant without a CAS number listed under subsection (b) for which a deletion petition has been filed within 12 months of the date of enactment of the Clean Air Act Amendments of 1990.

"(4) FURTHER INFORMATION.—If the Administrator determines that information on the health or environmental effects of a substance is not sufficient to make a determination required by this subsection, the Administrator may use any authority available to the Administrator to acquire such information.

"(5) TEST METHODS.—The Administrator may establish, by rule, test measures and other analytic procedures for monitoring and measuring emissions, ambient concentrations, deposition, and bioaccumulation of hazardous air pollutants.

"(6) PREVENTION OF SIGNIFICANT DETERIORATION.—The provisions of part C (prevention of significant deterioration) shall not apply to pollutants listed under this section.

"(7) LEAD.—The Administrator may not list elemental lead as a hazardous air pollutant under this subsection.

"(c) LIST OF SOURCE CATEGORIES.—

"(1) IN GENERAL.—Not later than 12 months after the date of enactment of the Clean Air Act Amendments of 1990, the Administrator shall publish, and shall from time to time, but no less often than every 8 years, revise, if appropriate, in response to public comment or new information, a list of all categories and subcategories of major sources and area sources (listed under paragraph (3)) of the air pollutants listed pursuant to subsection (b). To the extent practicable, the categories and subcategories listed under this subsection shall be consistent with the list of source categories established pursuant to section 111 and part C. Nothing in the preceding sentence limits the Administrator's authority to establish subcategories under this section, as appropriate.

"(2) REQUIREMENT FOR EMISSIONS STANDARDS.—For the categories and subcategories the Administrator lists, the Administrator shall establish emissions standards under subsection (d), according to the schedule in this subsection and subsection (e).

"(3) AREA SOURCES.—The Administrator shall list under this subsection each category or subcategory of area sources which the Administrator finds presents a threat of adverse effects to human health or the environment (by such sources individually or in the aggregate) warranting regulation under this section. The Administrator shall, not later than 5 years after the date of enactment of the Clean Air Act Amendments of 1990 and pursuant to subsection (k)(3)(B), list, based on actual or estimated aggregate emissions of a listed pollutant or pollutants, sufficient categories or subcategories of area sources to ensure that area sources representing 90 percent of the area source emissions of the 30 hazardous air pollutants that present the greatest threat to public health in the largest number of urban areas are subject to regulation under this section. Such regulations shall be promulgated not later than 10 years after such date of enactment. Regulations.

"(4) PREVIOUSLY REGULATED CATEGORIES.—The Administrator may, in the Administrator's discretion, list any category or subcategory of sources previously regulated under this section

as in effect before the date of enactment of the Clean Air Act Amendments of 1990.

"(5) ADDITIONAL CATEGORIES.—In addition to those categories and subcategories of sources listed for regulation pursuant to paragraphs (1) and (3), the Administrator may at any time list additional categories and subcategories of sources of hazardous air pollutants according to the same criteria for listing applicable under such paragraphs. In the case of source categories and subcategories listed after publication of the initial list required under paragraph (1) or (3), emission standards under subsection (d) for the category or subcategory shall be promulgated within 10 years after the date of enactment of the Clean Air Act Amendments of 1990, or within 2 years after the date on which such category or subcategory is listed, whichever is later.

"(6) SPECIFIC POLLUTANTS.—With respect to alkylated lead compounds, polycyclic organic matter, hexachlorobenzene, mercury, polychlorinated biphenyls, 2,3,7,8-tetrachlorodibenzofurans and 2,3,7,8-tetrachlorodibenzo-p-dioxin, the Administrator shall, not later than 5 years after the date of enactment of the Clean Air Act Amendments of 1990, list categories and subcategories of sources assuring that sources accounting for not less than 90 per centum of the aggregate emissions of each such pollutant are subject to standards under subsection (d)(2) or (d)(4). Such standards shall be promulgated not later than 10 years after such date of enactment. This paragraph shall not be construed to require the Administrator to promulgate standards for such pollutants emitted by electric utility steam generating units.

"(7) RESEARCH FACILITIES.—The Administrator shall establish a separate category covering research or laboratory facilities, as necessary to assure the equitable treatment of such facilities. For purposes of this section, 'research or laboratory facility' means any stationary source whose primary purpose is to conduct research and development into new processes and products, where such source is operated under the close supervision of technically trained personnel and is not engaged in the manufacture of products for commercial sale in commerce, except in a de minimis manner.

"(8) BOAT MANUFACTURING.—When establishing emissions standards for styrene, the Administrator shall list boat manufacturing as a separate subcategory unless the Administrator finds that such listing would be inconsistent with the goals and requirements of this Act.

"(9) DELETIONS FROM THE LIST.—

"(A) Where the sole reason for the inclusion of a source category on the list required under this subsection is the emission of a unique chemical substance, the Administrator shall delete the source category from the list if it is appropriate because of action taken under either subparagraphs (C) or (D) of subsection (b)(3).

"(B) The Administrator may delete any source category from the list under this subsection, on petition of any person or on the Administrator's own motion, whenever the Administrator makes the following determination or determinations, as applicable:

"(i) In the case of hazardous air pollutants emitted by sources in the category that may result in cancer in humans, a determination that no source in the category (or group of sources in the case of area sources) emits such hazardous air pollutants in quantities which may cause a lifetime risk of cancer greater than one in one million to the individual in the population who is most exposed to emissions of such pollutants from the source (or group of sources in the case of area sources).

"(ii) In the case of hazardous air pollutants that may result in adverse health effects in humans other than cancer or adverse environmental effects, a determination that emissions from no source in the category or subcategory concerned (or group of sources in the case of area sources) exceed a level which is adequate to protect public health with an ample margin of safety and no adverse environmental effect will result from emissions from any source (or from a group of sources in the case of area sources).

The Administrator shall grant or deny a petition under this paragraph within 1 year after the petition is filed.

"(d) EMISSION STANDARDS.—

"(1) IN GENERAL.—The Administrator shall promulgate regulations establishing emission standards for each category or subcategory of major sources and area sources of hazardous air pollutants listed for regulation pursuant to subsection (c) in accordance with the schedules provided in subsections (c) and (e). The Administrator may distinguish among classes, types, and sizes of sources within a category or subcategory in establishing such standards except that, there shall be no delay in the compliance date for any standard applicable to any source under subsection (i) as the result of the authority provided by this sentence. Regulations.

"(2) STANDARDS AND METHODS.—Emissions standards promulgated under this subsection and applicable to new or existing sources of hazardous air pollutants shall require the maximum degree of reduction in emissions of the hazardous air pollutants subject to this section (including a prohibition on such emissions, where achievable) that the Administrator, taking into consideration the cost of achieving such emission reduction, and any non-air quality health and environmental impacts and energy requirements, determines is achievable for new or existing sources in the category or subcategory to which such emission standard applies, through application of measures, processes, methods, systems or techniques including, but not limited to, measures which—

"(A) reduce the volume of, or eliminate emissions of, such pollutants through process changes, substitution of materials or other modifications,

"(B) enclose systems or processes to eliminate emissions,

"(C) collect, capture or treat such pollutants when released from a process, stack, storage or fugitive emissions point,

"(D) are design, equipment, work practice, or operational standards (including requirements for operator training or certification) as provided in subsection (h), or

"(E) are a combination of the above.

None of the measures described in subparagraphs (A) through (D) shall, consistent with the provisions of section 114(c), in any way compromise any United States patent or United States trademark right, or any confidential business information, or any trade secret or any other intellectual property right.

"(3) NEW AND EXISTING SOURCES.—The maximum degree of reduction in emissions that is deemed achievable for new sources in a category or subcategory shall not be less stringent than the emission control that is achieved in practice by the best controlled similar source, as determined by the Administrator. Emission standards promulgated under this subsection for existing sources in a category or subcategory may be less stringent than standards for new sources in the same category or subcategory but shall not be less stringent, and may be more stringent than—

"(A) the average emission limitation achieved by the best performing 12 percent of the existing sources (for which the Administrator has emissions information), excluding those sources that have, within 18 months before the emission standard is proposed or within 30 months before such standard is promulgated, whichever is later, first achieved a level of emission rate or emission reduction which complies, or would comply if the source is not subject to such standard, with the lowest achievable emission rate (as defined by section 171) applicable to the source category and prevailing at the time, in the category or subcategory for categories and subcategories with 30 or more sources, or

"(B) the average emission limitation achieved by the best performing 5 sources (for which the Administrator has or could reasonably obtain emissions information) in the category or subcategory for categories or subcategories with fewer than 30 sources.

"(4) HEALTH THRESHOLD.—With respect to pollutants for which a health threshold has been established, the Administrator may consider such threshold level, with an ample margin of safety, when establishing emission standards under this subsection.

"(5) ALTERNATIVE STANDARD FOR AREA SOURCES.—With respect only to categories and subcategories of area sources listed pursuant to subsection (c), the Administrator may, in lieu of the authorities provided in paragraph (2) and subsection (f), elect to promulgate standards or requirements applicable to sources in such categories or subcategories which provide for the use of generally available control technologies or management practices by such sources to reduce emissions of hazardous air pollutants.

"(6) REVIEW AND REVISION.—The Administrator shall review, and revise as necessary (taking into account developments in practices, processes, and control technologies), emission standards promulgated under this section no less often than every 8 years.

"(7) OTHER REQUIREMENTS PRESERVED.—No emission standard or other requirement promulgated under this section shall be interpreted, construed or applied to diminish or replace the requirements of a more stringent emission limitation or other applicable requirement established pursuant to section 111, part

C or D, or other authority of this Act or a standard issued under State authority.

"(8) COKE OVENS.—

"(A) Not later than December 31, 1992, the Administrator shall promulgate regulations establishing emission standards under paragraphs (2) and (3) of this subsection for coke oven batteries. In establishing such standards, the Administrator shall evaluate— Regulations.

"(i) the use of sodium silicate (or equivalent) luting compounds to prevent door leaks, and other operating practices and technologies for their effectiveness in reducing coke oven emissions, and their suitability for use on new and existing coke oven batteries, taking into account costs and reasonable commercial door warranties; and

"(ii) as a basis for emission standards under this subsection for new coke oven batteries that begin construction after the date of proposal of such standards, the Jewell design Thompson non-recovery coke oven batteries and other non-recovery coke oven technologies, and other appropriate emission control and coke production technologies, as to their effectiveness in reducing coke oven emissions and their capability for production of steel quality coke.

Such regulations shall require at a minimum that coke oven batteries will not exceed 8 per centum leaking doors, 1 per centum leaking lids, 5 per centum leaking offtakes, and 16 seconds visible emissions per charge, with no exclusion for emissions during the period after the closing of self-sealing oven doors. Notwithstanding subsection (i), the compliance date for such emission standards for existing coke oven batteries shall be December 31, 1995.

"(B) The Administrator shall promulgate work practice regulations under this subsection for coke oven batteries requiring, as appropriate— Regulations.

"(i) the use of sodium silicate (or equivalent) luting compounds, if the Administrator determines that use of sodium silicate is an effective means of emissions control and is achievable, taking into account costs and reasonable commercial warranties for doors and related equipment; and

"(ii) door and jam cleaning practices.

Notwithstanding subsection (i), the compliance date for such work practice regulations for coke oven batteries shall be not later than the date 3 years after the date of enactment of the Clean Air Act Amendments of 1990.

"(C) For coke oven batteries electing to qualify for an extension of the compliance date for standards promulgated under subsection (f) in accordance with subsection (i)(8), the emission standards under this subsection for coke oven batteries shall require that coke oven batteries not exceed 8 per centum leaking doors, 1 per centum leaking lids, 5 per centum leaking offtakes, and 16 seconds visible emissions per charge, with no exclusion for emissions during the period after the closing of self-sealing doors. Notwithstanding subsection (i), the compliance date for such emission standards for existing coke oven batteries seeking an exten-

sion shall be not later than the date 3 years after the date of enactment of the Clean Air Act Amendments of 1990.

"(9) SOURCES LICENSED BY THE NUCLEAR REGULATORY COMMISSION.—No standard for radionuclide emissions from any category or subcategory of facilities licensed by the Nuclear Regulatory Commission (or an Agreement State) is required to be promulgated under this section if the Administrator determines, by rule, and after consultation with the Nuclear Regulatory Commission, that the regulatory program established by the Nuclear Regulatory Commission pursuant to the Atomic Energy Act for such category or subcategory provides an ample margin of safety to protect the public health. Nothing in this subsection shall preclude or deny the right of any State or political subdivision thereof to adopt or enforce any standard or limitation respecting emissions of radionuclides which is more stringent than the standard or limitation in effect under section 111 or this section.

"(10) EFFECTIVE DATE.—Emission standards or other regulations promulgated under this subsection shall be effective upon promulgation.

"(e) SCHEDULE FOR STANDARDS AND REVIEW.—

Regulations.

"(1) IN GENERAL.—The Administrator shall promulgate regulations establishing emission standards for categories and subcategories of sources initially listed for regulation pursuant to subsection (c)(1) as expeditiously as practicable, assuring that—

"(A) emission standards for not less than 40 categories and subcategories (not counting coke oven batteries) shall be promulgated not later than 2 years after the date of enactment of the Clean Air Act Amendments of 1990;

"(B) emission standards for coke oven batteries shall be promulgated not later than December 31, 1992;

"(C) emission standards for 25 per centum of the listed categories and subcategories shall be promulgated not later than 4 years after the date of enactment of the Clean Air Act Amendments of 1990;

"(D) emission standards for an additional 25 per centum of the listed categories and subcategories shall be promulgated not later than 7 years after the date of enactment of the Clean Air Act Amendments of 1990; and

"(E) emission standards for all categories and subcategories shall be promulgated not later than 10 years after the date of enactment of the Clean Air Act Amendments of 1990.

"(2) In determining priorities for promulgating standards under subsection (d), the Administrator shall consider—

"(A) the known or anticipated adverse effects of such pollutants on public health and the environment;

"(B) the quantity and location of emissions or reasonably anticipated emissions of hazardous air pollutants that each category or subcategory will emit; and

"(C) the efficiency of grouping categories or subcategories according to the pollutants emitted, or the processes or technologies used.

"(3) PUBLISHED SCHEDULE.—Not later than 24 months after the date of enactment of the Clean Air Act Amendments of 1990 and after opportunity for comment, the Administrator shall

publish a schedule establishing a date for the promulgation of emission standards for each category and subcategory of sources listed pursuant to subsection (c)(1) and (3) which shall be consistent with the requirements of paragraphs (1) and (2). The determination of priorities for the promulgation of standards pursuant to this paragraph is not a rulemaking and shall not be subject to judicial review, except that, failure to promulgate any standard pursuant to the schedule established by this paragraph shall be subject to review under section 304 of this Act.

"(4) JUDICIAL REVIEW.—Notwithstanding section 307 of this Act, no action of the Administrator adding a pollutant to the list under subsection (b) or listing a source category or subcategory under subsection (c) shall be a final agency action subject to judicial review, except that any such action may be reviewed under such section 307 when the Administrator issues emission standards for such pollutant or category.

"(5) PUBLICLY OWNED TREATMENT WORKS.—The Administrator shall promulgate standards pursuant to subsection (d) applicable to publicly owned treatment works (as defined in title II of the Federal Water Pollution Control Act) not later than 5 years after the date of enactment of the Clean Air Act Amendments of 1990.

"(f) STANDARD TO PROTECT HEALTH AND THE ENVIRONMENT.—

"(1) REPORT.—Not later than 6 years after the date of enactment of the Clean Air Act Amendments of 1990 the Administrator shall investigate and report, after consultation with the Surgeon General and after opportunity for public comment, to Congress on—

"(A) methods of calculating the risk to public health remaining, or likely to remain, from sources subject to regulation under this section after the application of standards under subsection (d);

"(B) the public health significance of such estimated remaining risk and the technologically and commercially available methods and costs of reducing such risks;

"(C) the actual health effects with respect to persons living in the vicinity of sources, any available epidemiological or other health studies, risks presented by background concentrations of hazardous air pollutants, any uncertainties in risk assessment methodology or other health assessment technique, and any negative health or environmental consequences to the community of efforts to reduce such risks; and

"(D) recommendations as to legislation regarding such remaining risk.

"(2) EMISSION STANDARDS.—

"(A) If Congress does not act on any recommendation submitted under paragraph (1), the Administrator shall, within 8 years after promulgation of standards for each category or subcategory of sources pursuant to subsection (d), promulgate standards for such category or subcategory if promulgation of such standards is required in order to provide an ample margin of safety to protect public health in accordance with this section (as in effect before the date of enactment of the Clean Air Act Amendments of 1990) or to prevent, taking into consideration costs, energy, safety, and other relevant factors, an adverse environmental

effect. Emission standards promulgated under this subsection shall provide an ample margin of safety to protect public health in accordance with this section (as in effect before the date of enactment of the Clean Air Act Amendments of 1990), unless the Administrator determines that a more stringent standard is necessary to prevent, taking into consideration costs, energy, safety, and other relevant factors, an adverse environmental effect. If standards promulgated pursuant to subsection (d) and applicable to a category or subcategory of sources emitting a pollutant (or pollutants) classified as a known, probable or possible human carcinogen do not reduce lifetime excess cancer risks to the individual most exposed to emissions from a source in the category or subcategory to less than one in one million, the Administrator shall promulgate standards under this subsection for such source category.

"(B) Nothing in subparagraph (A) or in any other provision of this section shall be construed as affecting, or applying to the Administrator's interpretation of this section, as in effect before the date of enactment of the Clean Air Act Amendments of 1990 and set forth in the Federal Register of September 14, 1989 (54 Federal Register 38044).

"(C) The Administrator shall determine whether or not to promulgate such standards and, if the Administrator decides to promulgate such standards, shall promulgate the standards 8 years after promulgation of the standards under subsection (d) for each source category or subcategory concerned. In the case of categories or subcategories for which standards under subsection (d) are required to be promulgated within 2 years after the date of enactment of the Clean Air Act Amendments of 1990, the Administrator shall have 9 years after promulgation of the standards under subsection (d) to make the determination under the preceding sentence and, if required, to promulgate the standards under this paragraph.

"(3) EFFECTIVE DATE.—Any emission standard established pursuant to this subsection shall become effective upon promulgation.

"(4) PROHIBITION.—No air pollutant to which a standard under this subsection applies may be emitted from any stationary source in violation of such standard, except that in the case of an existing source—

"(A) such standard shall not apply until 90 days after its effective date, and

"(B) the Administrator may grant a waiver permitting such source a period of up to 2 years after the effective date of a standard to comply with the standard if the Administrator finds that such period is necessary for the installation of controls and that steps will be taken during the period of the waiver to assure that the health of persons will be protected from imminent endangerment.

"(5) AREA SOURCES.—The Administrator shall not be required to conduct any review under this subsection or promulgate emission limitations under this subsection for any category or subcategory of area sources that is listed pursuant to subsection (c)(3) and for which an emission standard is promulgated pursuant to subsection (d)(5).

"(6) UNIQUE CHEMICAL SUBSTANCES.—In establishing standards for the control of unique chemical substances of listed pollutants without CAS numbers under this subsection, the Administrator shall establish such standards with respect to the health and environmental effects of the substances actually emitted by sources and direct transformation byproducts of such emissions in the categories and subcategories.

"(g) MODIFICATIONS.—

"(1) OFFSETS.—

"(A) A physical change in, or change in the method of operation of, a major source which results in a greater than de minimis increase in actual emissions of a hazardous air pollutant shall not be considered a modification, if such increase in the quantity of actual emissions of any hazardous air pollutant from such source will be offset by an equal or greater decrease in the quantity of emissions of another hazardous air pollutant (or pollutants) from such source which is deemed more hazardous, pursuant to guidance issued by the Administrator under subparagraph (B). The owner or operator of such source shall submit a showing to the Administrator (or the State) that such increase has been offset under the preceding sentence.

"(B) The Administrator shall, after notice and opportunity for comment and not later than 18 months after the date of enactment of the Clean Air Act Amendments of 1990, publish guidance with respect to implementation of this subsection. Such guidance shall include an identification, to the extent practicable, of the relative hazard to human health resulting from emissions to the ambient air of each of the pollutants listed under subsection (b) sufficient to facilitate the offset showing authorized by subparagraph (A). Such guidance shall not authorize offsets between pollutants where the increased pollutant (or more than one pollutant in a stream of pollutants) causes adverse effects to human health for which no safety threshold for exposure can be determined unless there are corresponding decreases in such types of pollutant(s).

"(2) CONSTRUCTION, RECONSTRUCTION AND MODIFICATIONS.—

"(A) After the effective date of a permit program under title V in any State, no person may modify a major source of hazardous air pollutants in such State, unless the Administrator (or the State) determines that the maximum achievable control technology emission limitation under this section for existing sources will be met. Such determination shall be made on a case-by-case basis where no applicable emissions limitations have been established by the Administrator.

"(B) After the effective date of a permit program under title V in any State, no person may construct or reconstruct any major source of hazardous air pollutants, unless the Administrator (or the State) determines that the maximum achievable control technology emission limitation under this section for new sources will be met. Such determination shall be made on a case-by-case basis where no applicable emission limitations have been established by the Administrator.

"(3) PROCEDURES FOR MODIFICATIONS.—The Administrator (or the State) shall establish reasonable procedures for assuring that the requirements applying to modifications under this section are reflected in the permit.

"(h) WORK PRACTICE STANDARDS AND OTHER REQUIREMENTS.—

"(1) IN GENERAL.—For purposes of this section, if it is not feasible in the judgment of the Administrator to prescribe or enforce an emission standard for control of a hazardous air pollutant or pollutants, the Administrator may, in lieu thereof, promulgate a design, equipment, work practice, or operational standard, or combination thereof, which in the Administrator's judgment is consistent with the provisions of subsection (d) or (f). In the event the Administrator promulgates a design or equipment standard under this subsection, the Administrator shall include as part of such standard such requirements as will assure the proper operation and maintenance of any such element of design or equipment.

"(2) DEFINITION.—For the purpose of this subsection, the phrase 'not feasible to prescribe or enforce an emission standard' means any situation in which the Administrator determines that—

"(A) a hazardous air pollutant or pollutants cannot be emitted through a conveyance designed and constructed to emit or capture such pollutant, or that any requirement for, or use of, such a conveyance would be inconsistent with any Federal, State or local law, or

"(B) the application of measurement methodology to a particular class of sources is not practicable due to technological and economic limitations.

"(3) ALTERNATIVE STANDARD.—If after notice and opportunity for comment, the owner or operator of any source establishes to the satisfaction of the Administrator that an alternative means of emission limitation will achieve a reduction in emissions of any air pollutant at least equivalent to the reduction in emissions of such pollutant achieved under the requirements of paragraph (1), the Administrator shall permit the use of such alternative by the source for purposes of compliance with this section with respect to such pollutant.

"(4) NUMERICAL STANDARD REQUIRED.—Any standard promulgated under paragraph (1) shall be promulgated in terms of an emission standard whenever it is feasible to promulgate and enforce a standard in such terms.

"(i) SCHEDULE FOR COMPLIANCE.—

"(1) PRECONSTRUCTION AND OPERATING REQUIREMENTS.—After the effective date of any emission standard, limitation, or regulation under subsection (d), (f) or (h), no person may construct any new major source or reconstruct any existing major source subject to such emission standard, regulation or limitation unless the Administrator (or a State with a permit program approved under title V) determines that such source, if properly constructed, reconstructed and operated, will comply with the standard, regulation or limitation.

"(2) SPECIAL RULE.—Notwithstanding the requirements of paragraph (1), a new source which commences construction or reconstruction after a standard, limitation or regulation applicable to such source is proposed and before such standard, limitation or regulation is promulgated shall not be required to

comply with such promulgated standard until the date 3 years after the date of promulgation if—

"(A) the promulgated standard, limitation or regulation is more stringent than the standard, limitation or regulation proposed; and

"(B) the source complies with the standard, limitation, or regulation as proposed during the 3-year period immediately after promulgation.

"(3) COMPLIANCE SCHEDULE FOR EXISTING SOURCES.—

"(A) After the effective date of any emissions standard, limitation or regulation promulgated under this section and applicable to a source, no person may operate such source in violation of such standard, limitation or regulation except, in the case of an existing source, the Administrator shall establish a compliance date or dates for each category or subcategory of existing sources, which shall provide for compliance as expeditiously as practicable, but in no event later than 3 years after the effective date of such standard, except as provided in subparagraph (B) and paragraphs (4) through (8).

"(B) The Administrator (or a State with a program approved under title V) may issue a permit that grants an extension permitting an existing source up to 1 additional year to comply with standards under subsection (d) if such additional period is necessary for the installation of controls. An additional extension of up to 3 years may be added for mining waste operations, if the 4-year compliance time is insufficient to dry and cover mining waste in order to reduce emissions of any pollutant listed under subsection (b).

"(4) PRESIDENTIAL EXEMPTION.—The President may exempt any stationary source from compliance with any standard or limitation under this section for a period of not more than 2 years if the President determines that the technology to implement such standard is not available and that it is in the national security interests of the United States to do so. An exemption under this paragraph may be extended for 1 or more additional periods, each period not to exceed 2 years. The President shall report to Congress with respect to each exemption (or extension thereof) made under this paragraph. President. Reports.

"(5) EARLY REDUCTION.—

"(A) The Administrator (or a State acting pursuant to a permit program approved under title V) shall issue a permit allowing an existing source, for which the owner or operator demonstrates that the source has achieved a reduction of 90 per centum or more in emissions of hazardous air pollutants (95 per centum in the case of hazardous air pollutants which are particulates) from the source, to meet an alternative emission limitation reflecting such reduction in lieu of an emission limitation promulgated under subsection (d) for a period of 6 years from the compliance date for the otherwise applicable standard, provided that such reduction is achieved before the otherwise applicable standard under subsection (d) is first proposed. Nothing in this paragraph shall preclude a State from requiring reductions in excess of those specified in this

subparagraph as a condition of granting the extension authorized by the previous sentence.

"(B) An existing source which achieves the reduction referred to in subparagraph (A) after the proposal of an applicable standard but before January 1, 1994, may qualify under subparagraph (A), if the source makes an enforceable commitment to achieve such reduction before the proposal of the standard. Such commitment shall be enforceable to the same extent as a regulation under this section.

"(C) The reduction shall be determined with respect to verifiable and actual emissions in a base year not earlier than calendar year 1987, provided that, there is no evidence that emissions in the base year are artificially or substantially greater than emissions in other years prior to implementation of emissions reduction measures. The Administrator may allow a source to use a baseline year of 1985 or 1986 provided that the source can demonstrate to the satisfaction of the Administrator that emissions data for the source reflects verifiable data based on information for such source, received by the Administrator prior to the enactment of the Clean Air Act Amendments of 1990, pursuant to an information request issued under section 114.

"(D) For each source granted an alternative emission limitation under this paragraph there shall be established by a permit issued pursuant to title V an enforceable emission limitation for hazardous air pollutants reflecting the reduction which qualifies the source for an alternative emission limitation under this paragraph. An alternative emission limitation under this paragraph shall not be available with respect to standards or requirements promulgated pursuant to subsection (f) and the Administrator shall, for the purpose of determining whether a standard under subsection (f) is necessary, review emissions from sources granted an alternative emission limitation under this paragraph at the same time that other sources in the category or subcategory are reviewed.

"(E) With respect to pollutants for which high risks of adverse public health effects may be associated with exposure to small quantities including, but not limited to, chlorinated dioxins and furans, the Administrator shall by regulation limit the use of offsetting reductions in emissions of other hazardous air pollutants from the source as counting toward the 90 per centum reduction in such high-risk pollutants qualifying for an alternative emissions limitation under this paragraph.

"(6) OTHER REDUCTIONS.—Notwithstanding the requirements of this section, no existing source that has installed—

"(A) best available control technology (as defined in section 169(3)), or

"(B) technology required to meet a lowest achievable emission rate (as defined in section 171),

prior to the promulgation of a standard under this section applicable to such source and the same pollutant (or stream of pollutants) controlled pursuant to an action described in subparagraph (A) or (B) shall be required to comply with such standard under this section until the date 5 years after the date

on which such installation or reduction has been achieved, as determined by the Administrator. The Administrator may issue such rules and guidance as are necessary to implement this paragraph.

"(7) EXTENSION FOR NEW SOURCES.—A source for which construction or reconstruction is commenced after the date an emission standard applicable to such source is proposed pursuant to subsection (d) but before the date an emission standard applicable to such source is proposed pursuant to subsection (f) shall not be required to comply with the emission standard under subsection (f) until the date 10 years after the date construction or reconstruction is commenced.

"(8) COKE OVENS.

"(A) Any coke oven battery that complies with the emission limitations established under subsection (d)(8)(C), subparagraph (B), and subparagraph (C), and complies with the provisions of subparagraph (E), shall not be required to achieve emission limitations promulgated under subsection (f) until January 1, 2020.

"(B)(i) Not later than December 31, 1992, the Administrator shall promulgate emission limitations for coke oven emissions from coke oven batteries. Notwithstanding paragraph (3) of this subsection, the compliance date for such emission limitations for existing coke oven batteries shall be January 1, 1998. Such emission limitations shall reflect the lowest achievable emission rate as defined in section 171 for a coke oven battery that is rebuilt or a replacement at a coke oven plant for an existing battery. Such emission limitations shall be no less stringent than—

"(I) 3 per centum leaking doors (5 per centum leaking doors for six meter batteries);

"(II) 1 per centum leaking lids;

"(III) 4 per centum leaking offtakes; and

"(IV) 16 seconds visible emissions per charge,

with an exclusion for emissions during the period after the closing of self-sealing oven doors (or the total mass emissions equivalent). The rulemaking in which such emission limitations are promulgated shall also establish an appropriate measurement methodology for determining compliance with such emission limitations, and shall establish such emission limitations in terms of an equivalent level of mass emissions reduction from a coke oven battery, unless the Administrator finds that such a mass emissions standard would not be practicable or enforceable. Such measurement methodology, to the extent it measures leaking doors, shall take into consideration alternative test methods that reflect the best technology and practices actually applied in the affected industries, and shall assure that the final test methods are consistent with the performance of such best technology and practices. Regulations.

"(ii) If the Administrator fails to promulgate such emission limitations under this subparagraph prior to the effective date of such emission limitations, the emission limitations applicable to coke oven batteries under this subparagraph shall be—

"(I) 3 per centum leaking doors (5 per centum leaking doors for six meter batteries);

"(II) 1 per centum leaking lids;
"(III) 4 per centum leaking offtakes; and
"(IV) 16 seconds visible emissions per charge,

or the total mass emissions equivalent (if the total mass emissions equivalent is determined to be practicable and enforceable), with no exclusion for emissions during the period after the closing of self-sealing oven doors.

"(C) Not later than January 1, 2007, the Administrator shall review the emission limitations promulgated under subparagraph (B) and revise, as necessary, such emission limitations to reflect the lowest achievable emission rate as defined in section 171 at the time for a coke oven battery that is rebuilt or a replacement at a coke oven plant for an existing battery. Such emission limitations shall be no less stringent than the emission limitation promulgated under subparagraph (B). Notwithstanding paragraph (2) of this subsection, the compliance date for such emission limitations for existing coke oven batteries shall be January 1, 2010.

"(D) At any time prior to January 1, 1998, the owner or operator of any coke oven battery may elect to comply with emission limitations promulgated under subsection (f) by the date such emission limitations would otherwise apply to such coke oven battery, in lieu of the emission limitations and the compliance dates provided under subparagraphs (B) and (C) of this paragraph. Any such owner or operator shall be legally bound to comply with such emission limitations promulgated under subsection (f) with respect to such coke oven battery as of January 1, 2003. If no such emission limitations have been promulgated for such coke oven battery, the Administrator shall promulgate such emission limitations in accordance with subsection (f) for such coke oven battery.

"(E) Coke oven batteries qualifying for an extension under subparagraph (A) shall make available not later than January 1, 2000, to the surrounding communities the results of any risk assessment performed by the Administrator to determine the appropriate level of any emission standard established by the Administrator pursuant to subsection (f).

"(F) Notwithstanding the provisions of this section, reconstruction of any source of coke oven emissions qualifying for an extension under this paragraph shall not subject such source to emission limitations under subsection (f) more stringent than those established under subparagraphs (B) and (C) until January 1, 2020. For the purposes of this subparagraph, the term "reconstruction" includes the replacement of existing coke oven battery capacity with new coke oven batteries of comparable or lower capacity and lower potential emissions.

"(j) EQUIVALENT EMISSION LIMITATION BY PERMIT.—

"(1) EFFECTIVE DATE.—The requirements of this subsection shall apply in each State beginning on the effective date of a permit program established pursuant to title V in such State, but not prior to the date 42 months after the date of enactment of the Clean Air Act Amendments of 1990.

"(2) FAILURE TO PROMULGATE A STANDARD.—In the event that the Administrator fails to promulgate a standard for a category or subcategory of major sources by the date established pursuant to subsection (e)(1) and (3), and beginning 18 months after such date (but not prior to the effective date of a permit program under title V), the owner or operator of any major source in such category or subcategory shall submit a permit application under paragraph (3) and such owner or operator shall also comply with paragraphs (5) and (6).

"(3) APPLICATIONS.—By the date established by paragraph (2), the owner or operator of a major source subject to this subsection shall file an application for a permit. If the owner or operator of a source has submitted a timely and complete application for a permit required by this subsection, any failure to have a permit shall not be a violation of paragraph (2), unless the delay in final action is due to the failure of the applicant to timely submit information required or requested to process the application. The Administrator shall not later than 18 months after the date of enactment of the Clean Air Act Amendments of 1990, and after notice and opportunity for comment, establish requirements for applications under this subsection including a standard application form and criteria for determining in a timely manner the completeness of applications.

"(4) REVIEW AND APPROVAL.—Permit applications submitted under this subsection shall be reviewed and approved or disapproved according to the provisions of section 505. In the event that the Administrator (or the State) disapproves a permit application submitted under this subsection or determines that the application is incomplete, the applicant shall have up to 6 months to revise the application to meet the objections of the Administrator (or the State).

"(5) EMISSION LIMITATION.—The permit shall be issued pursuant to title V and shall contain emission limitations for the hazardous air pollutants subject to regulation under this section and emitted by the source that the Administrator (or the State) determines, on a case-by-case basis, to be equivalent to the limitation that would apply to such source if an emission standard had been promulgated in a timely manner under subsection (d). In the alternative, if the applicable criteria are met, the permit may contain an emissions limitation established according to the provisions of subsection (i)(5). For purposes of the preceding sentence, the reduction required by subsection (i)(5)(A) shall be achieved by the date on which the relevant standard should have been promulgated under subsection (d). No such pollutant may be emitted in amounts exceeding an emission limitation contained in a permit immediately for new sources and, as expeditiously as practicable, but not later than the date 3 years after the permit is issued for existing sources or such other compliance date as would apply under subsection (i).

"(6) APPLICABILITY OF SUBSEQUENT STANDARDS.—If the Administrator promulgates an emission standard that is applicable to the major source prior to the date on which a permit application is approved, the emission limitation in the permit shall reflect the promulgated standard rather than the emission limitation determined pursuant to paragraph (5), provided that the source shall have the compliance period provided under subsection (i). If the Administrator promulgates a stand-

ard under subsection (d) that would be applicable to the source in lieu of the emission limitation established by permit under this subsection after the date on which the permit has been issued, the Administrator (or the State) shall revise such permit upon the next renewal to reflect the standard promulgated by the Administrator providing such source a reasonable time to comply, but no longer than 8 years after such standard is promulgated or 8 years after the date on which the source is first required to comply with the emissions limitation established by paragraph (5), whichever is earlier.

"(k) AREA SOURCE PROGRAM.—

"(1) FINDINGS AND PURPOSE.—The Congress finds that emissions of hazardous air pollutants from area sources may individually, or in the aggregate, present significant risks to public health in urban areas. Considering the large number of persons exposed and the risks of carcinogenic and other adverse health effects from hazardous air pollutants, ambient concentrations characteristic of large urban areas should be reduced to levels substantially below those currently experienced. It is the purpose of this subsection to achieve a substantial reduction in emissions of hazardous air pollutants from area sources and an equivalent reduction in the public health risks associated with such sources including a reduction of not less than 75 per centum in the incidence of cancer attributable to emissions from such sources.

"(2) RESEARCH PROGRAM.—The Administrator shall, after consultation with State and local air pollution control officials, conduct a program of research with respect to sources of hazardous air pollutants in urban areas and shall include within such program—

"(A) ambient monitoring for a broad range of hazardous air pollutants (including, but not limited to, volatile organic compounds, metals, pesticides and products of incomplete combustion) in a representative number of urban locations;

"(B) analysis to characterize the sources of such pollution with a focus on area sources and the contribution that such sources make to public health risks from hazardous air pollutants; and

"(C) consideration of atmospheric transformation and other factors which can elevate public health risks from such pollutants.

Health effects considered under this program shall include, but not be limited to, carcinogenicity, mutagenicity, teratogenicity, neurotoxicity, reproductive dysfunction and other acute and chronic effects including the role of such pollutants as precursors of ozone or acid aerosol formation. The Administrator shall report the preliminary results of such research not later than 3 years after the date of enactment of the Clean Air Act Amendments of 1990.

Reports.

"(3) NATIONAL STRATEGY.—

"(A) Considering information collected pursuant to the monitoring program authorized by paragraph (2), the Administrator shall, not later than 5 years after the date of enactment of the Clean Air Act Amendments of 1990 and after notice and opportunity for public comment, prepare and transmit to the Congress a comprehensive strategy to

control emissions of hazardous air pollutants from area sources in urban areas.

"(B) The strategy shall—

"(i) identify not less than 30 hazardous air pollutants which, as the result of emissions from area sources, present the greatest threat to public health in the largest number of urban areas and that are or will be listed pursuant to subsection (b), and

"(ii) identify the source categories or subcategories emitting such pollutants that are or will be listed pursuant to subsection (c). When identifying categories and subcategories of sources under this subparagraph, the Administrator shall assure that sources accounting for 90 per centum or more of the aggregate emissions of each of the 30 identified hazardous air pollutants are subject to standards pursuant to subsection (d).

"(C) The strategy shall include a schedule of specific actions to substantially reduce the public health risks posed by the release of hazardous air pollutants from area sources that will be implemented by the Administrator under the authority of this or other laws (including, but not limited to, the Toxic Substances Control Act, the Federal Insecticide, Fungicide and Rodenticide Act and the Resource Conservation and Recovery Act) or by the States. The strategy shall achieve a reduction in the incidence of cancer attributable to exposure to hazardous air pollutants emitted by stationary sources of not less than 75 per centum, considering control of emissions of hazardous air pollutants from all stationary sources and resulting from measures implemented by the Administrator or by the States under this or other laws.

"(D) The strategy may also identify research needs in monitoring, analytical methodology, modeling or pollution control techniques and recommendations for changes in law that would further the goals and objectives of this subsection.

"(E) Nothing in this subsection shall be interpreted to preclude or delay implementation of actions with respect to area sources of hazardous air pollutants under consideration pursuant to this or any other law and that may be promulgated before the strategy is prepared.

"(F) The Administrator shall implement the strategy as expeditiously as practicable assuring that all sources are in compliance with all requirements not later than 9 years after the date of enactment of the Clean Air Act Amendments of 1990.

"(G) As part of such strategy the Administrator shall provide for ambient monitoring and emissions modeling in urban areas as appropriate to demonstrate that the goals and objectives of the strategy are being met.

"(4) AREAWIDE ACTIVITIES.—In addition to the national urban air toxics strategy authorized by paragraph (3), the Administrator shall also encourage and support areawide strategies developed by State or local air pollution control agencies that are intended to reduce risks from emissions by area sources within a particular urban area. From the funds available for grants under this section, the Administrator shall set aside not

less than 10 per centum to support areawide strategies addressing hazardous air pollutants emitted by area sources and shall award such funds on a demonstration basis to those States with innovative and effective strategies. At the request of State or local air pollution control officials, the Administrator shall prepare guidelines for control technologies or management practices which may be applicable to various categories or subcategories of area sources.

"(5) REPORT.—The Administrator shall report to the Congress at intervals not later than 8 and 12 years after the date of enactment of the Clean Air Act Amendments of 1990 on actions taken under this subsection and other parts of this Act to reduce the risk to public health posed by the release of hazardous air pollutants from area sources. The reports shall also identify specific metropolitan areas that continue to experience high risks to public health as the result of emissions from area sources.

"(l) STATE PROGRAMS.—

"(1) IN GENERAL.—Each State may develop and submit to the Administrator for approval a program for the implementation and enforcement (including a review of enforcement delegations previously granted) of emission standards and other requirements for air pollutants subject to this section or requirements for the prevention and mitigation of accidental releases pursuant to subsection (r). A program submitted by a State under this subsection may provide for partial or complete delegation of the Administrator's authorities and responsibilities to implement and enforce emissions standards and prevention requirements but shall not include authority to set standards less stringent than those promulgated by the Administrator under this Act.

"(2) GUIDANCE.—Not later than 12 months after the date of enactment of the Clean Air Act Amendments of 1990, the Administrator shall publish guidance that would be useful to the States in developing programs for submittal under this subsection. The guidance shall also provide for the registration of all facilities producing, processing, handling or storing any substance listed pursuant to subsection (r) in amounts greater than the threshold quantity. The Administrator shall include as an element in such guidance an optional program begun in 1986 for the review of high-risk point sources of air pollutants including, but not limited to, hazardous air pollutants listed pursuant to subsection (b).

Public information.

"(3) TECHNICAL ASSISTANCE.—The Administrator shall establish and maintain an air toxics clearinghouse and center to provide technical information and assistance to State and local agencies and, on a cost recovery basis, to others on control technology, health and ecological risk assessment, risk analysis, ambient monitoring and modeling, and emissions measurement and monitoring. The Administrator shall use the authority of section 103 to examine methods for preventing, measuring, and controlling emissions and evaluating associated health and ecological risks. Where appropriate, such activity shall be conducted with not-for-profit organizations. The Administrator may conduct research on methods for preventing, measuring and controlling emissions and evaluating associated health and environment risks. All information collected under this paragraph shall be available to the public.

"(4) GRANTS.—Upon application of a State, the Administrator may make grants, subject to such terms and conditions as the Administrator deems appropriate, to such State for the purpose of assisting the State in developing and implementing a program for submittal and approval under this subsection. Programs assisted under this paragraph may include program elements addressing air pollutants or extremely hazardous substances other than those specifically subject to this section. Grants under this paragraph may include support for high-risk point source review as provided in paragraph (2) and support for the development and implementation of areawide area source programs pursuant to subsection (k).

"(5) APPROVAL OR DISAPPROVAL.—Not later than 180 days after receiving a program submitted by a State, and after notice and opportunity for public comment, the Administrator shall either approve or disapprove such program. The Administrator shall disapprove any program submitted by a State, if the Administrator determines that—

"(A) the authorities contained in the program are not adequate to assure compliance by all sources within the State with each applicable standard, regulation or requirement established by the Administrator under this section;

"(B) adequate authority does not exist, or adequate resources are not available, to implement the program;

"(C) the schedule for implementing the program and assuring compliance by affected sources is not sufficiently expeditious; or

"(D) the program is otherwise not in compliance with the guidance issued by the Administrator under paragraph (2) or is not likely to satisfy, in whole or in part, the objectives of this Act.

If the Administrator disapproves a State program, the Administrator shall notify the State of any revisions or modifications necessary to obtain approval. The State may revise and resubmit the proposed program for review and approval pursuant to the provisions of this subsection.

"(6) WITHDRAWAL.—Whenever the Administrator determines, after public hearing, that a State is not administering and enforcing a program approved pursuant to this subsection in accordance with the guidance published pursuant to paragraph (2) or the requirements of paragraph (5), the Administrator shall so notify the State and, if action which will assure prompt compliance is not taken within 90 days, the Administrator shall withdraw approval of the program. The Administrator shall not withdraw approval of any program unless the State shall have been notified and the reasons for withdrawal shall have been stated in writing and made public.

"(7) AUTHORITY TO ENFORCE.—Nothing in this subsection shall prohibit the Administrator from enforcing any applicable emission standard or requirement under this section.

"(8) LOCAL PROGRAM.—The Administrator may, after notice and opportunity for public comment, approve a program developed and submitted by a local air pollution control agency (after consultation with the State) pursuant to this subsection and any such agency implementing an approved program may take any action authorized to be taken by a State under this section.

"(9) PERMIT AUTHORITY.—Nothing in this subsection shall affect the authorities and obligations of the Administrator or the State under title V.

"(m) ATMOSPHERIC DEPOSITION TO GREAT LAKES AND COASTAL WATERS.—

"(1) DEPOSITION ASSESSMENT.—The Administrator, in cooperation with the Under Secretary of Commerce for Oceans and Atmosphere, shall conduct a program to identify and assess the extent of atmospheric deposition of hazardous air pollutants (and in the discretion of the Administrator, other air pollutants) to the Great Lakes, the Chesapeake Bay, Lake Champlain and coastal waters. As part of such program, the Administrator shall—

"(A) monitor the Great Lakes, the Chesapeake Bay, Lake Champlain and coastal waters, including monitoring of the Great Lakes through the monitoring network established pursuant to paragraph (2) of this subsection and designing and deploying an atmospheric monitoring network for coastal waters pursuant to paragraph (4);

"(B) investigate the sources and deposition rates of atmospheric deposition of air pollutants (and their atmospheric transformation precursors);

"(C) conduct research to develop and improve monitoring methods and to determine the relative contribution of atmospheric pollutants to total pollution loadings to the Great Lakes, the Chesapeake Bay, Lake Champlain, and coastal waters;

"(D) evaluate any adverse effects to public health or the environment caused by such deposition (including effects resulting from indirect exposure pathways) and assess the contribution of such deposition to violations of water quality standards established pursuant to the Federal Water Pollution Control Act and drinking water standards established pursuant to the Safe Drinking Water Act; and

"(E) sample for such pollutants in biota, fish, and wildlife of the Great Lakes, the Chesapeake Bay, Lake Champlain and coastal waters and characterize the sources of such pollutants.

"(2) GREAT LAKES MONITORING NETWORK.—The Administrator shall oversee, in accordance with Annex 15 of the Great Lakes Water Quality Agreement, the establishment and operation of a Great Lakes atmospheric deposition network to monitor atmospheric deposition of hazardous air pollutants (and in the Administrator's discretion, other air pollutants) to the Great Lakes.

"(A) As part of the network provided for in this paragraph, and not later than December 31, 1991, the Administrator shall establish in each of the 5 Great Lakes at least 1 facility capable of monitoring the atmospheric deposition of hazardous air pollutants in both dry and wet conditions.

"(B) The Administrator shall use the data provided by the network to identify and track the movement of hazardous air pollutants through the Great Lakes, to determine the portion of water pollution loadings attributable to atmospheric deposition of such pollutants, and to support development of remedial action plans and other manage-

ment plans as required by the Great Lakes Water Quality Agreement.

"(C) The Administrator shall assure that the data collected by the Great Lakes atmospheric deposition monitoring network is in a format compatible with databases sponsored by the International Joint Commission, Canada, and the several States of the Great Lakes region.

"(3) MONITORING FOR THE CHESAPEAKE BAY AND LAKE CHAMPLAIN.—The Administrator shall establish at the Chesapeake Bay and Lake Champlain atmospheric deposition stations to monitor deposition of hazardous air pollutants (and in the Administrator's discretion, other air pollutants) within the Chesapeake Bay and Lake Champlain watersheds. The Administrator shall determine the role of air deposition in the pollutant loadings of the Chesapeake Bay and Lake Champlain, investigate the sources of air pollutants deposited in the watersheds, evaluate the health and environmental effects of such pollutant loadings, and shall sample such pollutants in biota, fish and wildlife within the watersheds, as necessary to characterize such effects.

"(4) MONITORING FOR COASTAL WATERS.—The Administrator shall design and deploy atmospheric deposition monitoring networks for coastal waters and their watersheds and shall make any information collected through such networks available to the public. As part of this effort, the Administrator shall conduct research to develop and improve deposition monitoring methods, and to determine the relative contribution of atmospheric pollutants to pollutant loadings. For purposes of this subsection, 'coastal waters' shall mean estuaries selected pursuant to section 320(a)(2)(A) of the Federal Water Pollution Control Act or listed pursuant to section 320(a)(2)(B) of such Act or estuarine research reserves designated pursuant to section 315 of the Coastal Zone Management Act (16 U.S.C. 1461).

"(5) REPORT.—Within 3 years of the date of enactment of the Clean Air Act Amendments of 1990 and biennially thereafter, the Administrator, in cooperation with the Under Secretary of Commerce for Oceans and Atmosphere, shall submit to the Congress a report on the results of any monitoring, studies, and investigations conducted pursuant to this subsection. Such report shall include, at a minimum, an assessment of—

"(A) the contribution of atmospheric deposition to pollution loadings in the Great Lakes, the Chesapeake Bay, Lake Champlain and coastal waters;

"(B) the environmental and public health effects of any pollution which is attributable to atmospheric deposition to the Great Lakes, the Chesapeake Bay, Lake Champlain and coastal waters;

"(C) the source or sources of any pollution to the Great Lakes, the Chesapeake Bay, Lake Champlain and coastal waters which is attributable to atmospheric deposition;

"(D) whether pollution loadings in the Great Lakes, the Chesapeake Bay, Lake Champlain or coastal waters cause or contribute to exceedances of drinking water standards pursuant to the Safe Drinking Water Act or water quality standards pursuant to the Federal Water Pollution Control Act or, with respect to the Great Lakes, exceedances of the

specific objectives of the Great Lakes Water Quality Agreement; and

"(E) a description of any revisions of the requirements, standards, and limitations pursuant to this Act and other applicable Federal laws as are necessary to assure protection of human health and the environment.

"(6) ADDITIONAL REGULATION.—As part of the report to Congress, the Administrator shall determine whether the other provisions of this section are adequate to prevent serious adverse effects to public health and serious or widespread environmental effects, including such effects resulting from indirect exposure pathways, associated with atmospheric deposition to the Great Lakes, the Chesapeake Bay, Lake Champlain and coastal waters of hazardous air pollutants (and their atmospheric transformation products). The Administrator shall take into consideration the tendency of such pollutants to bioaccumulate. Within 5 years after the date of enactment of the Clean Air Act Amendments of 1990, the Administrator shall, based on such report and determination, promulgate, in accordance with this section, such further emission standards or control measures as may be necessary and appropriate to prevent such effects, including effects due to bioaccumulation and indirect exposure pathways. Any requirements promulgated pursuant to this paragraph with respect to coastal waters shall only apply to the coastal waters of the States which are subject to section 328(a).

"(n) OTHER PROVISIONS.—

"(1) ELECTRIC UTILITY STEAM GENERATING UNITS.—

"(A) The Administrator shall perform a study of the hazards to public health reasonably anticipated to occur as a result of emissions by electric utility steam generating units of pollutants listed under subsection (b) after imposition of the requirements of this Act. The Administrator shall report the results of this study to the Congress within 3 years after the date of the enactment of the Clean Air Act Amendments of 1990. The Administrator shall develop and describe in the Administrator's report to Congress alternative control strategies for emissions which may warrant regulation under this section. The Administrator shall regulate electric utility steam generating units under this section, if the Administrator finds such regulation is appropriate and necessary after considering the results of the study required by this subparagraph.

"(B) The Administrator shall conduct, and transmit to the Congress not later than 4 years after the date of enactment of the Clean Air Act Amendments of 1990, a study of mercury emissions from electric utility steam generating units, municipal waste combustion units, and other sources, including area sources. Such study shall consider the rate and mass of such emissions, the health and environmental effects of such emissions, technologies which are available to control such emissions, and the costs of such technologies.

"(C) The National Institute of Environmental Health Sciences shall conduct, and transmit to the Congress not later than 3 years after the date of enactment of the Clean Air Act Amendments of 1990, a study to determine the

threshold level of mercury exposure below which adverse human health effects are not expected to occur. Such study shall include a threshold for mercury concentrations in the tissue of fish which may be consumed (including consumption by sensitive populations) without adverse effects to public health.

"(2) COKE OVEN PRODUCTION TECHNOLOGY STUDY.—

"(A) The Secretary of the Department of Energy and the Administrator shall jointly undertake a 6-year study to assess coke oven production emission control technologies and to assist in the development and commercialization of technically practicable and economically viable control technologies which have the potential to significantly reduce emissions of hazardous air pollutants from coke oven production facilities. In identifying control technologies, the Secretary and the Administrator shall consider the range of existing coke oven operations and battery design and the availability of sources of materials for such coke ovens as well as alternatives to existing coke oven production design.

"(B) The Secretary and the Administrator are authorized to enter into agreements with persons who propose to develop, install and operate coke production emission control technologies which have the potential for significant emissions reductions of hazardous air pollutants provided that Federal funds shall not exceed 50 per centum of the cost of any project assisted pursuant to this paragraph.

"(C) The Secretary shall prepare annual reports to Congress on the status of the research program and at the completion of the study shall make recommendations to the Administrator identifying practicable and economically viable control technologies for coke oven production facilities to reduce residual risks remaining after implementation of the standard under subsection (d). Reports.

"(D) There are authorized to be appropriated $5,000,000 for each of the fiscal years 1992 through 1997 to carry out the program authorized by this paragraph. Appropriation authorization.

"(3) PUBLICLY OWNED TREATMENT WORKS.—The Administrator may conduct, in cooperation with the owners and operators of publicly owned treatment works, studies to characterize emissions of hazardous air pollutants emitted by such facilities, to identify industrial, commercial and residential discharges that contribute to such emissions and to demonstrate control measures for such emissions. When promulgating any standard under this section applicable to publicly owned treatment works, the Administrator may provide for control measures that include pretreatment of discharges causing emissions of hazardous air pollutants and process or product substitutions or limitations that may be effective in reducing such emissions. The Administrator may prescribe uniform sampling, modeling and risk assessment methods for use in implementing this subsection.

"(4) OIL AND GAS WELLS; PIPELINE FACILITIES.—

"(A) Notwithstanding the provisions of subsection (a), emissions from any oil or gas exploration or production well (with its associated equipment) and emissions from any pipeline compressor or pump station shall not be aggre-

gated with emissions from other similar units, whether or not such units are in a contiguous area or under common control, to determine whether such units or stations are major sources, and in the case of any oil or gas exploration or production well (with its associated equipment), such emissions shall not be aggregated for any purpose under this section.

"(B) The Administrator shall not list oil and gas production wells (with its associated equipment) as an area source category under subsection (c), except that the Administrator may establish an area source category for oil and gas production wells located in any metropolitan statistical area or consolidated metropolitan statistical area with a population in excess of 1 million, if the Administrator determines that emissions of hazardous air pollutants from such wells present more than a negligible risk of adverse effects to public health.

"(5) HYDROGEN SULFIDE.—The Administrator is directed to assess the hazards to public health and the environment resulting from the emission of hydrogen sulfide associated with the extraction of oil and natural gas resources. To the extent practicable, the assessment shall build upon and not duplicate work conducted for an assessment pursuant to section 8002(m) of the Solid Waste Disposal Act and shall reflect consultation with the States. The assessment shall include a review of existing State and industry control standards, techniques and enforcement. The Administrator shall report to the Congress within 24 months after the date of enactment of the Clean Air Act Amendments of 1990 with the findings of such assessment, together with any recommendations, and shall, as appropriate, develop and implement a control strategy for emissions of hydrogen sulfide to protect human health and the environment, based on the findings of such assessment, using authorities under this Act including sections 111 and this section.

"(6) HYDROFLUORIC ACID.—Not later than 2 years after the date of enactment of the Clean Air Act Amendments of 1990, the Administrator shall, for those regions of the country which do not have comprehensive health and safety regulations with respect to hydrofluoric acid, complete a study of the potential hazards of hydrofluoric acid and the uses of hydrofluoric acid in industrial and commercial applications to public health and the environment considering a range of events including worst-case accidental releases and shall make recommendations to the Congress for the reduction of such hazards, if appropriate.

"(7) RCRA FACILITIES.—In the case of any category or subcategory of sources the air emissions of which are regulated under subtitle C of the Solid Waste Disposal Act, the Administrator shall take into account any regulations of such emissions which are promulgated under such subtitle and shall, to the maximum extent practicable and consistent with the provisions of this section, ensure that the requirements of such subtitle and this section are consistent.

"(o) NATIONAL ACADEMY OF SCIENCES STUDY.—

"(1) REQUEST OF THE ACADEMY.—Within 3 months of the date of enactment of the Clean Air Act Amendments of 1990, the Administrator shall enter into appropriate arrangements with the National Academy of Sciences to conduct a review of—

"(A) risk assessment methodology used by the Environmental Protection Agency to determine the carcinogenic risk associated with exposure to hazardous air pollutants from source categories and subcategories subject to the requirements of this section; and

"(B) improvements in such methodology.

"(2) ELEMENTS TO BE STUDIED.—In conducting such review, the National Academy of Sciences should consider, but not be limited to, the following—

"(A) the techniques used for estimating and describing the carcinogenic potency to humans of hazardous air pollutants; and

"(B) the techniques used for estimating exposure to hazardous air pollutants (for hypothetical and actual maximally exposed individuals as well as other exposed individuals).

"(3) OTHER HEALTH EFFECTS OF CONCERN.—To the extent practicable, the Academy shall evaluate and report on the methodology for assessing the risk of adverse human health effects other than cancer for which safe thresholds of exposure may not exist, including, but not limited to, inheritable genetic mutations, birth defects, and reproductive dysfunctions.

"(4) REPORT.—A report on the results of such review shall be submitted to the Senate Committee on Environment and Public Works, the House Committee on Energy and Commerce, the Risk Assessment and Management Commission established by section 303 of the Clean Air Act Amendments of 1990 and the Administrator not later than 30 months after the date of enactment of the Clean Air Act Amendments of 1990.

"(5) ASSISTANCE.—The Administrator shall assist the Academy in gathering any information the Academy deems necessary to carry out this subsection. The Administrator may use any authority under this Act to obtain information from any person, and to require any person to conduct tests, keep and produce records, and make reports respecting research or other activities conducted by such person as necessary to carry out this subsection.

"(6) AUTHORIZATION.—Of the funds authorized to be appropriated to the Administrator by this Act, such amounts as are required shall be available to carry out this subsection.

"(7) GUIDELINES FOR CARCINOGENIC RISK ASSESSMENT.—The Administrator shall consider, but need not adopt, the recommendations contained in the report of the National Academy of Sciences prepared pursuant to this subsection and the views of the Science Advisory Board, with respect to such report. Prior to the promulgation of any standard under subsection (f), and after notice and opportunity for comment, the Administrator shall publish revised Guidelines for Carcinogenic Risk Assessment or a detailed explanation of the reasons that any recommendations contained in the report of the National Academy of Sciences will not be implemented. The publication of such revised Guidelines shall be a final Agency action for purposes of section 307.

"(p) MICKEY LELAND URBAN AIR TOXICS RESEARCH CENTER.—

"(1) ESTABLISHMENT.—The Administrator shall oversee the establishment of a National Urban Air Toxics Research Center, to be located at a university, a hospital, or other facility capable

of undertaking and maintaining similar research capabilities in the areas of epidemiology, oncology, toxicology, pulmonary medicine, pathology, and biostatistics. The center shall be known as the Mickey Leland National Urban Air Toxics Research Center. The geographic site of the National Urban Air Toxics Research Center should be further directed to Harris County, Texas, in order to take full advantage of the well developed scientific community presence on-site at the Texas Medical Center as well as the extensive data previously compiled for the comprehensive monitoring system currently in place.

"(2) BOARD OF DIRECTORS.—The National Urban Air Toxics Research Center shall be governed by a Board of Directors to be comprised of 9 members, the appointment of which shall be allocated pro rata among the Speaker of the House, the Majority Leader of the Senate and the President. The members of the Board of Directors shall be selected based on their respective academic and professional backgrounds and expertise in matters relating to public health, environmental pollution and industrial hygiene. The duties of the Board of Directors shall be to determine policy and research guidelines, submit views from center sponsors and the public and issue periodic reports of center findings and activities.

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"(3) SCIENTIFIC ADVISORY PANEL.—The Board of Directors shall be advised by a Scientific Advisory Panel, the 13 members of which shall be appointed by the Board, and to include eminent members of the scientific and medical communities. The Panel membership may include scientists with relevant experience from the National Institute of Environmental Health Sciences, the Center for Disease Control, the Environmental Protection Agency, the National Cancer Institute, and others, and the Panel shall conduct peer review and evaluate research results. The Panel shall assist the Board in developing the research agenda, reviewing proposals and applications, and advise on the awarding of research grants.

"(4) FUNDING.—The center shall be established and funded with both Federal and private source funds.

(q) SAVINGS PROVISION.—

"(1) STANDARDS PREVIOUSLY PROMULGATED.—Any standard under this section in effect before the date of enactment of the Clean Air Act Amendments of 1990 shall remain in force and effect after such date unless modified as provided in this section before the date of enactment of such Amendments or under such Amendments. Except as provided in paragraph (4), any standard under this section which has been promulgated, but has not taken effect, before such date shall not be affected by such Amendments unless modified as provided in this section before such date or under such Amendments. Each such standard shall be reviewed and, if appropriate, revised, to comply with the requirements of subsection (d) within 10 years after the date of enactment of the Clean Air Act Amendments of 1990. If a timely petition for review of any such standard under section 307 is pending on such date of enactment, the standard shall be upheld if it complies with this section as in effect before that date. If any such standard is remanded to the Administrator, the Administrator may in the Administrator's discretion apply either the requirements of this section, or those of this section

as in effect before the date of enactment of the Clean Air Act Amendments of 1990.

"(2) SPECIAL RULE.—Notwithstanding paragraph (1), no standard shall be established under this section, as amended by the Clean Air Act Amendments of 1990, for radionuclide emissions from (A) elemental phosphorous plants, (B) grate calcination elemental phosphorous plants, (C) phosphogypsum stacks, or (D) any subcategory of the foregoing. This section, as in effect prior to the date of enactment of the Clean Air Act Amendments of 1990, shall remain in effect for radionuclide emissions from such plants and stacks.

"(3) OTHER CATEGORIES.—Notwithstanding paragraph (1), this section, as in effect prior to the date of enactment of the Clean Air Act Amendments of 1990, shall remain in effect for radionuclide emissions from non-Department of Energy Federal facilities that are not licensed by the Nuclear Regulatory Commission, coal-fired utility and industrial boilers, underground uranium mines, surface uranium mines, and disposal of uranium mill tailings piles, unless the Administrator, in the Administrator's discretion, applies the requirements of this section as modified by the Clean Air Act Amendments of 1990 to such sources of radionuclides.

"(4) MEDICAL FACILITIES.—Notwithstanding paragraph (1), no standard promulgated under this section prior to the date of enactment of the Clean Air Act Amendments of 1990 with respect to medical research or treatment facilities shall take effect for two years following the date of enactment of the Clean Air Act Amendments of 1990, unless the Administrator makes a determination pursuant to a rulemaking under section 112(d)(9). If the Administrator determines that the regulatory program established by the Nuclear Regulatory Commission for such facilities does not provide an ample margin of safety to protect public health, the requirements of section 112 shall fully apply to such facilities. If the Administrator determines that such regulatory program does provide an ample margin of safety to protect the public health, the Administrator is not required to promulgate a standard under this section for such facilities, as provided in section 112(d)(9).

"(r) PREVENTION OF ACCIDENTAL RELEASES.—

"(1) PURPOSE AND GENERAL DUTY.—It shall be the objective of the regulations and programs authorized under this subsection to prevent the accidental release and to minimize the consequences of any such release of any substance listed pursuant to paragraph (3) or any other extremely hazardous substance. The owners and operators of stationary sources producing, processing, handling or storing such substances have a general duty in the same manner and to the same extent as section 654, title 29 of the United States Code, to identify hazards which may result from such releases using appropriate hazard assessment techniques, to design and maintain a safe facility taking such steps as are necessary to prevent releases, and to minimize the consequences of accidental releases which do occur. For purposes of this paragraph, the provisions of section 304 shall not be available to any person or otherwise be construed to be applicable to this paragraph. Nothing in this section shall be interpreted, construed, implied or applied to create any liability or basis for suit for compensation for bodily injury or any other

injury or property damages to any person which may result from accidental releases of such substances.

"(2) DEFINITIONS.—

"(A) The term 'accidental release' means an unanticipated emission of a regulated substance or other extremely hazardous substance into the ambient air from a stationary source.

"(B) The term 'regulated substance' means a substance listed under paragraph (3).

"(C) The term 'stationary source' means any buildings, structures, equipment, installations or substance emitting stationary activities (i) which belong to the same industrial group, (ii) which are located on one or more contiguous properties, (iii) which are under the control of the same person (or persons under common control), and (iv) from which an accidental release may occur.

"(3) LIST OF SUBSTANCES.—The Administrator shall promulgate not later than 24 months after enactment of the Clean Air Act Amendments of 1990 an initial list of 100 substances which, in the case of an accidental release, are known to cause or may reasonably be anticipated to cause death, injury, or serious adverse effects to human health or the environment. For purposes of promulgating such list, the Administrator shall use, but is not limited to, the list of extremely hazardous substances published under the Emergency Planning and Community Right-to-Know Act of 1986, with such modifications as the Administrator deems appropriate. The initial list shall include chlorine, anhydrous ammonia, methyl chloride, ethylene oxide, vinyl chloride, methyl isocyanate, hydrogen cyanide, ammonia, hydrogen sulfide, toluene diisocyanate, phosgene, bromine, anhydrous hydrogen chloride, hydrogen fluoride, anhydrous sulfur dioxide, and sulfur trioxide. The initial list shall include at least 100 substances which pose the greatest risk of causing death, injury, or serious adverse effects to human health or the environment from accidental releases. Regulations establishing the list shall include an explanation of the basis for establishing the list. The list may be revised from time to time by the Administrator on the Administrator's own motion or by petition and shall be reviewed at least every 5 years. No air pollutant for which a national primary ambient air quality standard has been established shall be included on any such list. No substance, practice, process, or activity regulated under title VI shall be subject to regulations under this subsection. The Administrator shall establish procedures for the addition and deletion of substances from the list established under this paragraph consistent with those applicable to the list in subsection (b).

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"(4) FACTORS TO BE CONSIDERED.—In listing substances under paragraph (3), the Administrator shall consider each of the following criteria—

"(A) the severity of any acute adverse health effects associated with accidental releases of the substance;

"(B) the likelihood of accidental releases of the substance; and

"(C) the potential magnitude of human exposure to accidental releases of the substance.

"(5) THRESHOLD QUANTITY.—At the time any substance is listed pursuant to paragraph (3), the Administrator shall establish by rule, a threshold quantity for the substance, taking into account the toxicity, reactivity, volatility, dispersibility, combustibility, or flammability of the substance and the amount of the substance which, as a result of an accidental release, is known to cause or may reasonably be anticipated to cause death, injury or serious adverse effects to human health for which the substance was listed. The Administrator is authorized to establish a greater threshold quantity for, or to exempt entirely, any substance that is a nutrient used in agriculture when held by a farmer.

"(6) CHEMICAL SAFETY BOARD.—

"(A) There is hereby established an independent safety board to be known as the Chemical Safety and Hazard Investigation Board. Establishment.

"(B) The Board shall consist of 5 members, including a Chairperson, who shall be appointed by the President, by and with the advice and consent of the Senate. Members of the Board shall be appointed on the basis of technical qualification, professional standing, and demonstrated knowledge in the fields of accident reconstruction, safety engineering, human factors, toxicology, or air pollution regulation. The terms of office of members of the Board shall be 5 years. Any member of the Board, including the Chairperson, may be removed for inefficiency, neglect of duty, or malfeasance in office. The Chairperson shall be the Chief Executive Officer of the Board and shall exercise the executive and administrative functions of the Board.

"(C) The Board shall—

"(i) investigate (or cause to be investigated), determine and report to the public in writing the facts, conditions, and circumstances and the cause or probable cause of any accidental release resulting in a fatality, serious injury or substantial property damages;

"(ii) issue periodic reports to the Congress, Federal, State and local agencies, including the Environmental Protection Agency and the Occupational Safety and Health Administration, concerned with the safety of chemical production, processing, handling and storage, and other interested persons recommending measures to reduce the likelihood or the consequences of accidental releases and proposing corrective steps to make chemical production, processing, handling and storage as safe and free from risk of injury as is possible and may include in such reports proposed rules or orders which should be issued by the Administrator under the authority of this section or the Secretary of Labor under the Occupational Safety and Health Act to prevent or minimize the consequences of any release of substances that may cause death, injury or other serious adverse effects on human health or substantial property damage as the result of an accidental release; and Reports.

"(iii) establish by regulation requirements binding on persons for reporting accidental releases into the am-

bient air subject to the Board's investigatory jurisdiction. Reporting releases to the National Response Center, in lieu of the Board directly, shall satisfy such regulations. The National Response Center shall promptly notify the Board of any releases which are within the Board's jurisdiction.

"(D) The Board may utilize the expertise and experience of other agencies.

"(E) The Board shall coordinate its activities with investigations and studies conducted by other agencies of the United States having a responsibility to protect public health and safety. The Board shall enter into a memorandum of understanding with the National Transportation Safety Board to assure coordination of functions and to limit duplication of activities which shall designate the National Transportation Safety Board as the lead agency for the investigation of releases which are transportation related. The Board shall not be authorized to investigate marine oil spills, which the National Transportation Safety Board is authorized to investigate. The Board shall enter into a memorandum of understanding with the Occupational Safety and Health Administration so as to limit duplication of activities. In no event shall the Board forego an investigation where an accidental release causes a fatality or serious injury among the general public, or had the potential to cause substantial property damage or a number of deaths or injuries among the general public.

"(F) The Board is authorized to conduct research and studies with respect to the potential for accidental releases, whether or not an accidental release has occurred, where there is evidence which indicates the presence of a potential hazard or hazards. To the extent practicable, the Board shall conduct such studies in cooperation with other Federal agencies having emergency response authorities, State and local governmental agencies and associations and organizations from the industrial, commercial, and nonprofit sectors.

"(G) No part of the conclusions, findings, or recommendations of the Board relating to any accidental release or the investigation thereof shall be admitted as evidence or used in any action or suit for damages arising out of any matter mentioned in such report.

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"(H) Not later than 18 months after the date of enactment of the Clean Air Act Amendments of 1990, the Board shall publish a report accompanied by recommendations to the Administrator on the use of hazard assessments in preventing the occurrence and minimizing the consequences of accidental releases of extremely hazardous substances. The recommendations shall include a list of extremely hazardous substances which are not regulated substances (including threshold quantities for such substances) and categories of stationary sources for which hazard assessments would be an appropriate measure to aid in the prevention of accidental releases and to minimize the consequences of those releases that do occur. The recommendations shall also include a description of the information and analysis which would be appropriate to

include in any hazard assessment. The Board shall also make recommendations with respect to the role of risk management plans as required by paragraph (8)(B) in preventing accidental releases. The Board may from time to time review and revise its recommendations under this subparagraph.

"(I) Whenever the Board submits a recommendation with respect to accidental releases to the Administrator, the Administrator shall respond to such recommendation formally and in writing not later than 180 days after receipt thereof. The response to the Board's recommendation by the Administrator will—

"(i) initiate a rulemaking or issue such orders as are necessary to implement the recommendation in full or in part, pursuant to any timetable contained in the recommendation;

"(ii) decline to initiate a rulemaking or issue orders as recommended.

Any determination by the Administrator not to implement a recommendation of the Board or to implement a recommendation only in part, including any variation from the schedule contained in the recommendation, shall be accompanied by a statement from the Administrator setting forth the reasons for such determination.

"(J) The Board may make recommendations with respect to accidental releases to the Secretary of Labor. Whenever the Board submits such recommendation, the Secretary shall respond to such recommendation formally and in writing not later than 180 days after receipt thereof. The response to the Board's recommendation by the Administrator shall indicate whether the Secretary will—

"(i) initiate a rulemaking or issue such orders as are necessary to implement the recommendation in full or in part, pursuant to any timetable contained in the recommendation;

"(ii) decline to initiate a rulemaking or issue orders as recommended.

Any determination by the Secretary not to implement a recommendation or to implement a recommendation only in part, including any variation from the schedule contained in the recommendation, shall be accompanied by a statement from the Secretary setting forth the reasons for such determination.

"(K) Within 2 years after enactment of the Clean Air Act Amendments of 1990, the Board shall issue a report to the Administrator of the Environmental Protection Agency and to the Administrator of the Occupational Safety and Health Administration recommending the adoption of regulations for the preparation of risk management plans and general requirements for the prevention of accidental releases of regulated substances into the ambient air (including recommendations for listing substances under paragraph (3)) and for the mitigation of the potential adverse effect on human health or the environment as a result of accidental releases which should be applicable to any stationary source handling any regulated substance in more than

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threshold amounts. The Board may include proposed rules or orders which should be issued by the Administrator under authority of this subsection or by the Secretary of Labor under the Occupational Safety and Health Act. Any such recommendations shall be specific and shall identify the regulated substance or class of regulated substances (or other substances) to which the recommendations apply. The Administrator shall consider such recommendations before promulgating regulations required by paragraph (7)(B).

"(L) The Board, or upon authority of the Board, any member thereof, any administrative law judge employed by or assigned to the Board, or any officer or employee duly designated by the Board, may for the purpose of carrying out duties authorized by subparagraph (C)—

"(i) hold such hearings, sit and act at such times and places, administer such oaths, and require by subpoena or otherwise attendance and testimony of such witnesses and the production of evidence and may require by order that any person engaged in the production, processing, handling, or storage of extremely hazardous substances submit written reports and responses to requests and questions within such time and in such form as the Board may require; and

"(ii) upon presenting appropriate credentials and a written notice of inspection authority, enter any property where an accidental release causing a fatality, serious injury or substantial property damage has occurred and do all things therein necessary for a proper investigation pursuant to subparagraph (C) and inspect at reasonable times records, files, papers, processes, controls, and facilities and take such samples as are relevant to such investigation.

Whenever the Administrator or the Board conducts an inspection of a facility pursuant to this subsection, employees and their representatives shall have the same rights to participate in such inspections as provided in the Occupational Safety and Health Act.

"(M) In addition to that described in subparagraph (L), the Board may use any information gathering authority of the Administrator under this Act, including the subpoena power provided in section 307(a)(1) of this Act.

"(N) The Board is authorized to establish such procedural and administrative rules as are necessary to the exercise of its functions and duties. The Board is authorized without regard to section 5 of title 41 of the United States Code to enter into contracts, leases, cooperative agreements or other transactions as may be necessary in the conduct of the duties and functions of the Board with any other agency, institution, or person.

"(O) After the effective date of any reporting requirement promulgated pursuant to subparagraph (C)(iii) it shall be unlawful for any person to fail to report any release of any extremely hazardous substance as required by such subparagraph. The Administrator is authorized to enforce any regulation or requirements established by the Board pursuant to subparagraph (C)(iii) using the authorities of sections 113 and 114. Any request for information from the

owner or operator of a stationary source made by the Board or by the Administrator under this section shall be treated, for purposes of sections 113, 114, 116, 120, 303, 304 and 307 and any other enforcement provisions of this Act, as a request made by the Administrator under section 114 and may be enforced by the Chairperson of the Board or by the Administrator as provided in such section.

"(P) The Administrator shall provide to the Board such support and facilities as may be necessary for operation of the Board.

"(Q) Consistent with subsection (G) and section 114(c) any records, reports or information obtained by the Board shall be available to the Administrator, the Secretary of Labor, the Congress and the public, except that upon a showing satisfactory to the Board by any person that records, reports, or information, or particular part thereof (other than release or emissions data) to which the Board has access, if made public, is likely to cause substantial harm to the person's competitive position, the Board shall consider such record, report, or information or particular portion thereof confidential in accordance with section 1905 of title 18 of the United States Code, except that such record, report, or information may be disclosed to other officers, employees, and authorized representatives of the United States concerned with carrying out this Act or when relevant under any proceeding under this Act. This subparagraph does not constitute authority to withhold records, reports, or information from the Congress. Records.

"(R) Whenever the Board submits or transmits any budget estimate, budget request, supplemental budget request, or other budget information, legislative recommendation, prepared testimony for congressional hearings, recommendation or study to the President, the Secretary of Labor, the Administrator, or the Director of the Office of Management and Budget, it shall concurrently transmit a copy thereof to the Congress. No report of the Board shall be subject to review by the Administrator or any Federal agency or to judicial review in any court. No officer or agency of the United States shall have authority to require the Board to submit its budget requests or estimates, legislative recommendations, prepared testimony, comments, recommendations or reports to any officer or agency of the United States for approval or review prior to the submission of such recommendations, testimony, comments or reports to the Congress. In the performance of their functions as established by this Act, the members, officers and employees of the Board shall not be responsible to or subject to supervision or direction, in carrying out any duties under this subsection, of any officer or employee or agent of the Environmental Protection Agency, the Department of Labor or any other agency of the United States except that the President may remove any member, officer or employee of the Board for inefficiency, neglect of duty or malfeasance in office. Nothing in this section shall affect the application of title 5, United States Code to officers or employees of the Board.

Reports.

"(S) The Board shall submit an annual report to the President and to the Congress which shall include, but not be limited to, information on accidental releases which have been investigated by or reported to the Board during the previous year, recommendations for legislative or administrative action which the Board has made, the actions which have been taken by the Administrator or the Secretary of Labor or the heads of other agencies to implement such recommendations, an identification of priorities for study and investigation in the succeeding year, progress in the development of risk-reduction technologies and the response to and implementation of significant research findings on chemical safety in the public and private sector.

"(7) ACCIDENT PREVENTION.—

"(A) In order to prevent accidental releases of regulated substances, the Administrator is authorized to promulgate release prevention, detection, and correction requirements which may include monitoring, record-keeping, reporting, training, vapor recovery, secondary containment, and other design, equipment, work practice, and operational requirements. Regulations promulgated under this paragraph may make distinctions between various types, classes, and kinds of facilities, devices and systems taking into consideration factors including, but not limited to, the size, location, process, process controls, quantity of substances handled, potency of substances, and response capabilities present at any stationary source. Regulations promulgated pursuant to this subparagraph shall have an effective date, as determined by the Administrator, assuring compliance as expeditiously as practicable.

Regulations.

"(B)(i) Within 3 years after the date of enactment of the Clean Air Act Amendments of 1990, the Administrator shall promulgate reasonable regulations and appropriate guidance to provide, to the greatest extent practicable, for the prevention and detection of accidental releases of regulated substances and for response to such releases by the owners or operators of the sources of such releases. The Administrator shall utilize the expertise of the Secretaries of Transportation and Labor in promulgating such regulations. As appropriate, such regulations shall cover the use, operation, repair, replacement, and maintenance of equipment to monitor, detect, inspect, and control such releases, including training of persons in the use and maintenance of such equipment and in the conduct of periodic inspections. The regulations shall include procedures and measures for emergency response after an accidental release of a regulated substance in order to protect human health and the environment. The regulations shall cover storage, as well as operations. The regulations shall, as appropriate, recognize differences in size, operations, processes, class and categories of sources and the voluntary actions of such sources to prevent such releases and respond to such releases. The regulations shall be applicable to a stationary source 3 years after the date of promulgation, or 3 years after the date on which a regulated substance present at the source in more than threshold amounts is first listed under paragraph (3), whichever is later.

"(ii) The regulations under this subparagraph shall require the owner or operator of stationary sources at which a regulated substance is present in more than a threshold quantity to prepare and implement a risk management plan to detect and prevent or minimize accidental releases of such substances from the stationary source, and to provide a prompt emergency response to any such releases in order to protect human health and the environment. Such plan shall provide for compliance with the requirements of this subsection and shall also include each of the following:

"(I) a hazard assessment to assess the potential effects of an accidental release of any regulated substance. This assessment shall include an estimate of potential release quantities and a determination of downwind effects, including potential exposures to affected populations. Such assessment shall include a previous release history of the past 5 years, including the size, concentration, and duration of releases, and shall include an evaluation of worst case accidental releases;'

"(II) a program for preventing accidental releases of regulated substances, including safety precautions and maintenance, monitoring and employee training measures to be used at the source; and'

"(III) a response program providing for specific actions to be taken in response to an accidental release of a regulated substance so as to protect human health and the environment, including procedures for informing the public and local agencies responsible for responding to accidental releases, emergency health care, and employee training measures.

At the time regulations are promulgated under this subparagraph, the Administrator shall promulgate guidelines to assist stationary sources in the preparation of risk management plans. The guidelines shall, to the extent practicable, include model risk management plans.

"(iii) The owner or operator of each stationary source covered by clause (ii) shall register a risk management plan prepared under this subparagraph with the Administrator before the effective date of regulations under clause (i) in such form and manner as the Administrator shall, by rule, require. Plans prepared pursuant to this subparagraph shall also be submitted to the Chemical Safety and Hazard Investigation Board, to the State in which the stationary source is located, and to any local agency or entity having responsibility for planning for or responding to accidental releases which may occur at such source, and shall be available to the public under section 114(c). The Administrator shall establish, by rule, an auditing system to regularly review and, if necessary, require revision in risk management plans to assure that the plans comply with this subparagraph. Each such plan shall be updated periodically as required by the Administrator, by rule.

"(C) Any regulations promulgated pursuant to this subsection shall to the maximum extent practicable, consistent with this subsection, be consistent with the rec-

ommendations and standards established by the American Society of Mechanical Engineers (ASME), the American National Standards Institute (ANSI) or the American Society of Testing Materials (ASTM). The Administrator shall take into consideration the concerns of small business in promulgating regulations under this subsection.

Small businesses.

"(D) In carrying out the authority of this paragraph, the Administrator shall consult with the Secretary of Labor and the Secretary of Transportation and shall coordinate any requirements under this paragraph with any requirements established for comparable purposes by the Occupational Safety and Health Administration or the Department of Transportation. Nothing in this subsection shall be interpreted, construed or applied to impose requirements affecting, or to grant the Administrator, the Chemical Safety and Hazard Investigation Board, or any other agency any authority to regulate (including requirements for hazard assessment), the accidental release of radionuclides arising from the construction and operation of facilities licensed by the Nuclear Regulatory Commission.

"(E) After the effective date of any regulation or requirement imposed under this subsection, it shall be unlawful for any person to operate any stationary source subject to such regulation or requirement in violation of such regulation or requirement. Each regulation or requirement under this subsection shall for purposes of sections 113, 114, 116, 120, 304, and 307 and other enforcement provisions of this Act, be treated as a standard in effect under subsection (d).

"(F) Notwithstanding the provisions of title V or this section, no stationary source shall be required to apply for, or operate pursuant to, a permit issued under such title solely because such source is subject to regulations or requirements under this subsection.

"(G) In exercising any authority under this subsection, the Administrator shall not, for purposes of section 653(b)(1) of title 29 of the United States Code, be deemed to be exercising statutory authority to prescribe or enforce standards or regulations affecting occupational safety and health.

"(8) RESEARCH ON HAZARD ASSESSMENTS.—The Administrator may collect and publish information on accident scenarios and consequences covering a range of possible events for substances listed under paragraph (3). The Administrator shall establish a program of long-term research to develop and disseminate information on methods and techniques for hazard assessment which may be useful in improving and validating the procedures employed in the preparation of hazard assessments under this subsection.

"(9) ORDER AUTHORITY.—

"(A) In addition to any other action taken, when the Administrator determines that there may be an imminent and substantial endangerment to the human health or welfare or the environment because of an actual or threatened accidental release of a regulated substance, the Administrator may secure such relief as may be necessary to abate such danger or threat, and the district court of the

United States in the district in which the threat occurs shall have jurisdiction to grant such relief as the public interest and the equities of the case may require. The Administrator may also, after notice to the State in which the stationary source is located, take other action under this paragraph including, but not limited to, issuing such orders as may be necessary to protect human health. The Administrator shall take action under section 303 rather than this paragraph whenever the authority of such section is adequate to protect human health and the environment.

"(B) Orders issued pursuant to this paragraph may be enforced in an action brought in the appropriate United States district court as if the order were issued under section 303.

"(C) Within 180 days after enactment of the Clean Air Act Amendments of 1990, the Administrator shall publish guidance for using the order authorities established by this paragraph. Such guidance shall provide for the coordinated use of the authorities of this paragraph with other emergency powers authorized by section 106 of the Comprehensive Environmental Response, Compensation and Liability Act, sections 311(c), 308, 309 and 504(a) of the Federal Water Pollution Control Act, sections 3007, 3008, 3013, and 7003 of the Solid Waste Disposal Act, sections 1445 and 1431 of the Safe Drinking Water Act, sections 5 and 7 of the Toxic Substances Control Act, and sections 113, 114, and 303 of this Act.

"(10) PRESIDENTIAL REVIEW.—The President shall conduct a review of release prevention, mitigation and response authorities of the various Federal agencies and shall clarify and coordinate agency responsibilities to assure the most effective and efficient implementation of such authorities and to identify any deficiencies in authority or resources which may exist. The President may utilize the resources and solicit the recommendations of the Chemical Safety and Hazard Investigation Board in conducting such review. At the conclusion of such review, but not later than 24 months after the date of enactment of the Clean Air Act Amendments of 1990, the President shall transmit a message to the Congress on the release prevention, mitigation and response activities of the Federal Government making such recommendations for change in law as the President may deem appropriate. Nothing in this paragraph shall be interpreted, construed or applied to authorize the President to modify or reassign release prevention, mitigation or response authorities otherwise established by law.

"(11) STATE AUTHORITY.—Nothing in this subsection shall preclude, deny or limit any right of a State or political subdivision thereof to adopt or enforce any regulation, requirement, limitation or standard (including any procedural requirement) that is more stringent than a regulation, requirement, limitation or standard in effect under this subsection or that applies to a substance not subject to this subsection.

"(s) PERIODIC REPORT.—Not later than January 15, 1993 and every 3 years thereafter, the Administrator shall prepare and transmit to the Congress a comprehensive report on the measures taken by the Agency and by the States to implement the provisions of this section. The Administrator shall maintain a database on pollutants

and sources subject to the provisions of this section and shall include aggregate information from the database in each annual report. The report shall include, but not be limited to—

"(1) a status report on standard-setting under subsections (d) and (f);

"(2) information with respect to compliance with such standards including the costs of compliance experienced by sources in various categories and subcategories;

"(3) development and implementation of the national urban air toxics program; and

"(4) recommendations of the Chemical Safety and Hazard Investigation Board with respect to the prevention and mitigation of accidental releases.".

SEC. 302. CONFORMING AMENDMENTS.

42 USC 7411.

(a) Section 111(d)(1) of the Clean Air Act is amended by striking "112(b)(1)(A)" and inserting in lieu thereof "112(b)".

(b) Section 111 of the Clean Air Act is amended by striking paragraphs (g)(5) and (g)(6) and redesignating the succeeding paragraphs accordingly. Such section is further amended by striking "or section 112" in paragraph (g)(5) as redesignated in the preceding sentence.

42 USC 7414.

(c) Section 114(a) of the Clean Air Act is amended by striking "or" after "section 111," and by inserting ", or any regulation of solid waste combustion under section 129," after "section 112".

42 USC 7418.

(d) Section 118(b) of the Clean Air Act is amended by striking "112(c)" and inserting in lieu thereof "112(i)(4)".

42 USC 7602.

(e) Section 302(k) of the Clean Air Act is amended by adding before the period at the end thereof ", and any design, equipment, work practice or operational standard promulgated under this Act.".

42 USC 7604.

(f) Section 304(b) of the Clean Air Act is amended by striking "112(c)(1)(B)" and inserting in lieu thereof "112(i)(3)(A) or (f)(4)".

42 USC 7607.

(g) Section 307(b)(1) is amended by striking "112(c)" and inserting in lieu thereof "112".

(h) Section 307(d)(1) is amended by inserting—

"(D) the promulgation of any requirement for solid waste combustion under section 129,"

after subparagraph (C) and redesignating the succeeding subparagraphs accordingly.

42 USC 7412 note.

SEC. 303. RISK ASSESSMENT AND MANAGEMENT COMMISSION.

(a) ESTABLISHMENT.—There is hereby established a Risk Assessment and Management Commission (hereafter referred to in this section as the "Commission"), which shall commence proceedings not later than 18 months after the date of enactment of the Clean Air Act Amendments of 1990 and which shall make a full investigation of the policy implications and appropriate uses of risk assessment and risk management in regulatory programs under various Federal laws to prevent cancer and other chronic human health effects which may result from exposure to hazardous substances.

(b) CHARGE.—The Commission shall consider—

(1) the report of the National Academy of Sciences authorized by section 112(o) of the Clean Air Act, the use and limitations of risk assessment in establishing emission or effluent standards, ambient standards, exposure standards, acceptable concentration levels, tolerances or other environmental criteria for hazardous substances that present a risk of carcinogenic effects

or other chronic health effects and the suitability of risk assessment for such purposes;

(2) the most appropriate methods for measuring and describing cancer risks or risks of other chronic health effects from exposure to hazardous substances considering such alternative approaches as the lifetime risk of cancer or other effects to the individual or individuals most exposed to emissions from a source or sources on both an actual and worst case basis, the range of such risks, the total number of health effects avoided by exposure reductions, effluent standards, ambient standards, exposures standards, acceptable concentration levels, tolerances and other environmental criteria, reductions in the number of persons exposed at various levels of risk, the incidence of cancer, and other public health factors;

(3) methods to reflect uncertainties in measurement and estimation techniques, the existence of synergistic or antagonistic effects among hazardous substances, the accuracy of extrapolating human health risks from animal exposure data, and the existence of unquantified direct or indirect effects on human health in risk assessment studies;

(4) risk management policy issues including the use of lifetime cancer risks to individuals most exposed, incidence of cancer, the cost and technical feasibility of exposure reduction measures and the use of site-specific actual exposure information in setting emissions standards and other limitations applicable to sources of exposure to hazardous substances; and

(5) and comment on the degree to which it is possible or desirable to develop a consistent risk assessment methodology, or a consistent standard of acceptable risk, among various Federal programs.

(c) MEMBERSHIP.—Such Commission shall be composed of ten members who shall have knowledge or experience in fields of risk assessment or risk management, including three members to be appointed by the President, two members to be appointed by the Speaker of the House of Representatives, one member to be appointed by the Minority Leader of the House of Representatives, two members to be appointed by the Majority Leader of the Senate, one member to be appointed by the Minority Leader of the Senate, and one member to be appointed by the President of the National Academy of Sciences. Appointments shall be made not later than 18 months after the date of enactment of the Clean Air Act Amendments of 1990.

(d) ASSISTANCE FROM AGENCIES.—The Administrator of the Environmental Protection Agency and the heads of all other departments, agencies, and instrumentalities of the executive branch of the Federal Government shall, to the maximum extent practicable, assist the Commission in gathering such information as the Commission deems necessary to carry out this section subject to other provisions of law.

(e) STAFF AND CONTRACTS.—

(1) In the conduct of the study required by this section, the Commission is authorized to contract (in accordance with Federal contract law) with nongovernmental entities that are competent to perform research or investigations within the Commission's mandate, and to hold public hearings, forums, and workshops to enable full public participation.

(2) The Commission may appoint and fix the pay of such staff as it deems necessary in accordance with the provisions of title 5, United States Code. The Commission may request the temporary assignment of personnel from the Environmental Protection Agency or other Federal agencies.

(3) The members of the Commission who are not officers or employees of the United States, while attending conferences or meetings of the Commission or while otherwise serving at the request of the Chair, shall be entitled to receive compensation at a rate not in excess of the maximum rate of pay for Grade GS–18, as provided in the General Schedule under section 5332 of title 5 of the United States Code, including travel time, and while away from their homes or regular places of business they may be allowed travel expenses, including per diem in lieu of subsistence as authorized by law for persons in the Government service employed intermittently.

(f) REPORT.—A report containing the results of all Commission studies and investigations under this section, together with any appropriate legislative recommendations or administrative recommendations, shall be made available to the public for comment not later than 42 months after the date of enactment of the Clean Air Act Amendments of 1990 and shall be submitted to the President and to the Congress not later than 48 months after such date of enactment. In the report, the Commission shall make recommendations with respect to the appropriate use of risk assessment and risk management in Federal regulatory programs to prevent cancer or other chronic health effects which may result from exposure to hazardous substances. The Commission shall cease to exist upon the date determined by the Commission, but not later than 9 months after the submission of such report.

(g) AUTHORIZATION.—There are authorized to be appropriated such sums as are necessary to carry out the activities of the Commission established by this section.

29 USC 655 note.

SEC. 304. CHEMICAL PROCESS SAFETY MANAGEMENT.

(a) CHEMICAL PROCESS SAFETY STANDARD.—The Secretary of Labor shall act under the Occupational Safety and Health Act of 1970 (29 U.S.C. 653) to prevent accidental releases of chemicals which could pose a threat to employees. Not later than 12 months after the date of enactment of the Clean Air Act Amendments of 1990, the Secretary of Labor, in coordination with the Administrator of the Environmental Protection Agency, shall promulgate, pursuant to the Occupational Safety and Health Act, a chemical process safety standard designed to protect employees from hazards associated with accidental releases of highly hazardous chemicals in the workplace.

(b) LIST OF HIGHLY HAZARDOUS CHEMICALS.—The Secretary shall include as part of such standard a list of highly hazardous chemicals, which include toxic, flammable, highly reactive and explosive substances. The list of such chemicals may include those chemicals listed by the Administrator under section 302 of the Emergency Planning and Community Right to Know Act of 1986. The Secretary may make additions to such list when a substance is found to pose a threat of serious injury or fatality in the event of an accidental release in the workplace.

(c) ELEMENTS OF SAFETY STANDARD.—Such standard shall, at minimum, require employers to—

(1) develop and maintain written safety information identifying workplace chemical and process hazards, equipment used in the processes, and technology used in the processes;

(2) perform a workplace hazard assessment, including, as appropriate, identification of potential sources of accidental releases, an identification of any previous release within the facility which had a likely potential for catastrophic consequences in the workplace, estimation of workplace effects of a range of releases, estimation of the health and safety effects of such range on employees;

(3) consult with employees and their representatives on the development and conduct of hazard assessments and the development of chemical accident prevention plans and provide access to these and other records required under the standard;

(4) establish a system to respond to the workplace hazard assessment findings, which shall address prevention, mitigation, and emergency responses;

(5) periodically review the workplace hazard assessment and response system;

(6) develop and implement written operating procedures for the chemical process including procedures for each operating phase, operating limitations, and safety and health considerations;

(7) provide written safety and operating information to employees and train employees in operating procedures, emphasizing hazards and safe practices;

(8) ensure contractors and contract employees are provided appropriate information and training;

(9) train and educate employees and contractors in emergency response in a manner as comprehensive and effective as that required by the regulation promulgated pursuant to section 126(d) of the Superfund Amendments and Reauthorization Act;

(10) establish a quality assurance program to ensure that initial process related equipment, maintenance materials, and spare parts are fabricated and installed consistent with design specifications;

(11) establish maintenance systems for critical process related equipment including written procedures, employee training, appropriate inspections, and testing of such equipment to ensure ongoing mechanical integrity;

(12) conduct pre-start-up safety reviews of all newly installed or modified equipment;

(13) establish and implement written procedures to manage change to process chemicals, technology, equipment and facilities; and

(14) investigate every incident which results in or could have resulted in a major accident in the workplace, with any findings to be reviewed by operating personnel and modifications made if appropriate.

(d) STATE AUTHORITY.—Nothing in this section may be construed to diminish the authority of the States and political subdivisions thereof as described in section 112(r)(11) of the Clean Air Act.

SEC. 305. SOLID WASTE COMBUSTION.

(a) Part A of title I of the Clean Air Act is amended by adding the following new section at the end thereof:

42 USC 7429.

"SEC. 129. SOLID WASTE COMBUSTION.

"(a) NEW SOURCE PERFORMANCE STANDARDS.—

"(1) IN GENERAL.—(A) The Administrator shall establish performance standards and other requirements pursuant to section 111 and this section for each category of solid waste incineration units. Such standards shall include emissions limitations and other requirements applicable to new units and guidelines (under section 111(d) and this section) and other requirements applicable to existing units.

"(B) Standards under section 111 and this section applicable to solid waste incineration units with capacity greater than 250 tons per day combusting municipal waste shall be promulgated not later than 12 months after the date of enactment of the Clean Air Act Amendments of 1990. Nothing in this subparagraph shall alter any schedule for the promulgation of standards applicable to such units under section 111 pursuant to any settlement and consent decree entered by the Administrator before the date of enactment of the Clean Air Act Amendments of 1990: *Provided*, That, such standards are subsequently modified pursuant to the schedule established in this subparagraph to include each of the requirements of this section.

"(C) Standards under section 111 and this section applicable to solid waste incineration units with capacity equal to or less than 250 tons per day combusting municipal waste and units combusting hospital waste, medical waste and infectious waste shall be promulgated not later than 24 months after the date of enactment of the Clean Air Act Amendments of 1990.

"(D) Standards under section 111 and this section applicable to solid waste incineration units combusting commercial or industrial waste shall be proposed not later than 36 months after the date of enactment of the Clean Air Act Amendments of 1990 and promulgated not later than 48 months after such date of enactment.

"(E) Not later than 18 months after the date of enactment of the Clean Air Act Amendments of 1990, the Administrator shall publish a schedule for the promulgation of standards under section 111 and this section applicable to other categories of solid waste incineration units.

"(2) EMISSIONS STANDARD.—Standards applicable to solid waste incineration units promulgated under section 111 and this section shall reflect the maximum degree of reduction in emissions of air pollutants listed under section (a)(4) that the Administrator, taking into consideration the cost of achieving such emission reduction, and any non-air quality health and environmental impacts and energy requirements, determines is achievable for new or existing units in each category. The Administrator may distinguish among classes, types (including mass-burn, refuse-derived fuel, modular and other types of units), and sizes of units within a category in establishing such standards. The degree of reduction in emissions that is deemed achievable for new units in a category shall not be less stringent than the emissions control that is achieved in practice by the best controlled similar unit, as determined by the Administrator. Emissions standards for existing units in a category may be less stringent than standards for new units in the same

category but shall not be less stringent than the average emissions limitation achieved by the best performing 12 percent of units in the category (excluding units which first met lowest achievable emissions rates 18 months before the date such standards are proposed or 30 months before the date such standards are promulgated, whichever is later).

"(3) CONTROL METHODS AND TECHNOLOGIES.—Standards under section 111 and this section applicable to solid waste incineration units shall be based on methods and technologies for removal or destruction of pollutants before, during, or after combustion, and shall incorporate for new units siting requirements that minimize, on a site specific basis, to the maximum extent practicable, potential risks to public health or the environment.

"(4) NUMERICAL EMISSIONS LIMITATIONS.—The performance standards promulgated under section 111 and this section and applicable to solid waste incineration units shall specify numerical emission limitations for the following substances or mixtures: particulate matter (total and fine), opacity (as appropriate), sulfur dioxide, hydrogen chloride, oxides of nitrogen, carbon monoxide, lead, cadmium, mercury, and dioxins and dibenzofurans. The Administrator may promulgate numerical emissions limitations or provide for the monitoring of postcombustion concentrations of surrogate substances, parameters or periods of residence time in excess of stated temperatures with respect to pollutants other than those listed in this paragraph.

"(5) REVIEW AND REVISION.—Not later than 5 years following the initial promulgation of any performance standards and other requirements under this section and section 111 applicable to a category of solid waste incineration units, and at 5 year intervals thereafter, the Administrator shall review, and in accordance with this section and section 111, revise such standards and requirements.

"(b) EXISTING UNITS.—

"(1) GUIDELINES.—Performance standards under this section and section 111 for solid waste incineration units shall include guidelines promulgated pursuant to section 111(d) and this section applicable to existing units. Such guidelines shall include, as provided in this section, each of the elements required by subsection (a) (emissions limitations, notwithstanding any restriction in section 111(d) regarding issuance of such limitations), subsection (c) (monitoring), subsection (d) (operator training), subsection (e) (permits), and subsection (h)(4) (residual risk).

"(2) STATE PLANS.—Not later than 1 year after the Administrator promulgates guidelines for a category of solid waste incineration units, each State in which units in the category are operating shall submit to the Administrator a plan to implement and enforce the guidelines with respect to such units. The State plan shall be at least as protective as the guidelines promulgated by the Administrator and shall provide that each unit subject to the guidelines shall be in compliance with all requirements of this section not later than 3 years after the State plan is approved by the Administrator but not later than 5 years after the guidelines were promulgated. The Administrator shall approve or disapprove any State plan within 180

days of the submission, and if a plan is disapproved, the Administrator shall state the reasons for disapproval in writing. Any State may modify and resubmit a plan which has been disapproved by the Administrator.

"(3) FEDERAL PLAN.—The Administrator shall develop, implement and enforce a plan for existing solid waste incineration units within any category located in any State which has not submitted an approvable plan under this subsection with respect to units in such category within 2 years after the date on which the Administrator promulgated the relevant guidelines. Such plan shall assure that each unit subject to the plan is in compliance with all provisions of the guidelines not later than 5 years after the date the relevant guidelines are promulgated.

Regulations.

"(c) MONITORING.—The Administrator shall, as part of each performance standard promulgated pursuant to subsection (a) and section 111, promulgate regulations requiring the owner or operator of each solid waste incineration unit—

"(1) to monitor emissions from the unit at the point at which such emissions are emitted into the ambient air (or within the stack, combustion chamber or pollution control equipment, as appropriate) and at such other points as necessary to protect public health and the environment;

"(2) to monitor such other parameters relating to the operation of the unit and its pollution control technology as the Administrator determines are appropriate; and

"(3) to report the results of such monitoring.

Such regulations shall contain provisions regarding the frequency of monitoring, test methods and procedures validated on solid waste incineration units, and the form and frequency of reports containing the results of monitoring and shall require that any monitoring reports or test results indicating an exceedance of any standard under this section shall be reported separately and in a manner that facilitates review for purposes of enforcement actions. Such regulations shall require that copies of the results of such monitoring be maintained on file at the facility concerned and that copies shall be made available for inspection and copying by interested members of the public during business hours.

"(d) OPERATOR TRAINING.—Not later than 24 months after the enactment of the Clean Air Act Amendments of 1990, the Administrator shall develop and promote a model State program for the training and certification of solid waste incineration unit operators and high-capacity fossil fuel fired plant operators. The Administrator may authorize any State to implement a model program for the training of solid waste incineration unit operators and high-capacity fossil fuel fired plant operators, if the State has adopted a program which is at least as effective as the model program developed by the Administrator. Beginning on the date 36 months after the date on which performance standards and guidelines are promulgated under subsection (a) and section 111 for any category of solid waste incineration units it shall be unlawful to operate any unit in the category unless each person with control over processes affecting emissions from such unit has satisfactorily completed a training program meeting the requirements established by the Administrator under this subsection.

"(e) PERMITS.—Beginning (1) 36 months after the promulgation of a performance standard under subsection (a) and section 111

applicable to a category of solid waste incineration units, or (2) the effective date of a permit program under title V in the State in which the unit is located, whichever is later, each unit in the category shall operate pursuant to a permit issued under this subsection and title V. Permits required by this subsection may be renewed according to the provisions of title V. Notwithstanding any other provision of this Act, each permit for a solid waste incineration unit combusting municipal waste issued under this Act shall be issued for a period of up to 12 years and shall be reviewed every 5 years after date of issuance or reissuance. Each permit shall continue in effect after the date of issuance until the date of termination, unless the Administrator or State determines that the unit is not in compliance with all standards and conditions contained in the permit. Such determination shall be made at regular intervals during the term of the permit, such intervals not to exceed 5 years, and only after public comment and public hearing. No permit for a solid waste incineration unit may be issued under this Act by an agency, instrumentality or person that is also responsible, in whole or part, for the design and construction or operation of the unit. Notwithstanding any other provision of this subsection, the Administrator or the State shall require the owner or operator of any unit to comply with emissions limitations or implement any other measures, if the Administrator or the State determines that emissions in the absence of such limitations or measures may reasonably be anticipated to endanger public health or the environment. The Administrator's determination under the preceding sentence is a discretionary decision.

"(f) EFFECTIVE DATE AND ENFORCEMENT.—

"(1) NEW UNITS.—Performance standards and other requirements promulgated pursuant to this section and section 111 and applicable to new solid waste incineration units shall be effective as of the date 6 months after the date of promulgation.

"(2) EXISTING UNITS.—Performance standards and other requirements promulgated pursuant to this section and section 111 and applicable to existing solid waste incineration units shall be effective as expeditiously as practicable after approval of a State plan under subsection (b)(2) (or promulgation of a plan by the Administrator under subsection (b)(3)) but in no event later than 3 years after the State plan is approved or 5 years after the date such standards or requirements are promulgated, whichever is earlier.

"(3) PROHIBITION.—After the effective date of any performance standard, emission limitation or other requirement promulgated pursuant to this section and section 111, it shall be unlawful for any owner or operator of any solid waste incineration unit to which such standard, limitation or requirement applies to operate such unit in violation of such limitation, standard or requirement or for any other person to violate an applicable requirement of this section.

"(4) COORDINATION WITH OTHER AUTHORITIES.—For purposes of sections 111(e), 113, 114, 116, 120, 303, 304, 307 and other provisions for the enforcement of this Act, each performance standard, emission limitation or other requirement established pursuant to this section by the Administrator or a State or local government, shall be treated in the same manner as a standard of performance under section 111 which is an emission limitation.

"(g) DEFINITIONS.—For purposes of section 306 of the Clean Air Act Amendments of 1990 and this section only—

"(1) SOLID WASTE INCINERATION UNIT.—The term 'solid waste incineration unit' means a distinct operating unit of any facility which combusts any solid waste material from commercial or industrial establishments or the general public (including single and multiple residences, hotels, and motels). Such term does not include incinerators or other units required to have a permit under section 3005 of the Solid Waste Disposal Act. The term 'solid waste incineration unit' does not include (A) materials recovery facilities (including primary or secondary smelters) which combust waste for the primary purpose of recovering metals, (B) qualifying small power production facilities, as defined in section 3(17)(C) of the Federal Power Act (16 U.S.C. 769(17)(C)), or qualifying cogeneration facilities, as defined in section 3(18)(B) of the Federal Power Act (16 U.S.C. 796(18)(B)), which burn homogeneous waste (such as units which burn tires or used oil, but not including refuse-derived fuel) for the production of electric energy or in the case of qualifying cogeneration facilities which burn homogeneous waste for the production of electric energy and steam or forms of useful energy (such as heat) which are used for industrial, commercial, heating or cooling purposes, or (C) air curtain incinerators provided that such incinerators only burn wood wastes, yard wastes and clean lumber and that such air curtain incinerators comply with opacity limitations to be established by the Administrator by rule.

"(2) NEW SOLID WASTE INCINERATION UNIT.—The term 'new solid waste incineration unit' means a solid waste incineration unit the construction of which is commenced after the Administrator proposes requirements under this section establishing emissions standards or other requirements which would be applicable to such unit or a modified solid waste incineration unit.

"(3) MODIFIED SOLID WASTE INCINERATION UNIT.—The term 'modified solid waste incineration unit' means a solid waste incineration unit at which modifications have occurred after the effective date of a standard under subsection (a) if (A) the cumulative cost of the modifications, over the life of the unit, exceed 50 per centum of the original cost of construction and installation of the unit (not including the cost of any land purchased in connection with such construction or installation) updated to current costs, or (B) the modification is a physical change in or change in the method of operation of the unit which increases the amount of any air pollutant emitted by the unit for which standards have been established under this section or section 111.

"(4) EXISTING SOLID WASTE INCINERATION UNIT.—The term 'existing solid waste incineration unit' means a solid waste unit which is not a new or modified solid waste incineration unit.

"(5) MUNICIPAL WASTE.—The term 'municipal waste' means refuse (and refuse-derived fuel) collected from the general public and from residential, commercial, institutional, and industrial sources consisting of paper, wood, yard wastes, food wastes, plastics, leather, rubber, and other combustible materials and non-combustible materials such as metal, glass and rock, provided that: (A) the term does not include industrial

process wastes or medical wastes that are segregated from such other wastes; and (B) an incineration unit shall not be considered to be combusting municipal waste for purposes of section 111 or this section if it combusts a fuel feed stream, 30 percent or less of the weight of which is comprised, in aggregate, of municipal waste.

"(6) OTHER TERMS.—The terms 'solid waste' and 'medical waste' shall have the meanings established by the Administrator pursuant to the Solid Waste Disposal Act.

"(h) OTHER AUTHORITY.—

"(1) STATE AUTHORITY.—Nothing in this section shall preclude or deny the right of any State or political subdivision thereof to adopt or enforce any regulation, requirement, limitation or standard relating to solid waste incineration units that is more stringent than a regulation, requirement, limitation or standard in effect under this section or under any other provision of this Act.

"(2) OTHER AUTHORITY UNDER THIS ACT.—Nothing in this section shall diminish the authority of the Administrator or a State to establish any other requirements applicable to solid waste incineration units under any other authority of law, including the authority to establish for any air pollutant a national ambient air quality standard, except that no solid waste incineration unit subject to performance standards under this section and section 111 shall be subject to standards under section 112(d) of this Act.

"(3) RESIDUAL RISK.—The Administrator shall promulgate standards under section 112(f) for a category of solid waste incineration units, if promulgation of such standards is required under section 112(f). For purposes of this preceding sentence only—

"(A) the performance standards under subsection (a) and section 111 applicable to a category of solid waste incineration units shall be deemed standards under section 112(d)(2), and

"(B) the Administrator shall consider and regulate, if required, the pollutants listed under subsection (a)(4) and no others.

"(4) ACID RAIN.—A solid waste incineration unit shall not be a utility unit as defined in title IV: *Provided*, That, more than 80 per centum of its annual average fuel consumption measured on a Btu basis, during a period or periods to be determined by the Administrator, is from a fuel (including any waste burned as a fuel) other than a fossil fuel.

"(5) REQUIREMENTS OF PARTS C AND D.—No requirement of an applicable implementation plan under section 165 (relating to construction of facilities in regions identified pursuant to section 107(d)(1)(A) (ii) or (iii)) or under section 172(c)(5) (relating to permits for construction and operation in nonattainment areas) may be used to weaken the standards in effect under this section.".

(b) CONFORMING AMENDMENT.—Section 169(1) of the Clean Air Act is amended by striking "two hundred and" after "municipal incinerators capable of charging more than". 42 USC 7479.

(c) REVIEW OF ACID GAS SCRUBBING REQUIREMENTS.—Prior to the promulgation of any performance standard for solid waste incineration units combusting municipal waste under section 111 or section 42 USC 7429 note.

129 of the Clean Air Act, the Administrator shall review the availability of acid gas scrubbers as a pollution control technology for small new units and for existing units (as defined in 54 Federal Register 52190 (December 20, 1989), taking into account the provisions of subsection (a)(2) of section 129 of the Clean Air Act.

42 USC 6921 note.

SEC. 306. ASH MANAGEMENT AND DISPOSAL.

For a period of 2 years after the date of enactment of the Clean Air Act Amendments of 1990, ash from solid waste incineration units burning municipal waste shall not be regulated by the Administrator of the Environmental Protection Agency pursuant to section 3001 of the Solid Waste Disposal Act. Such reference and limitation shall not be construed to prejudice, endorse or otherwise affect any activity by the Administrator following the 2-year period from the date of enactment of the Clean Air Act Amendments of 1990.

TITLE IV—ACID DEPOSITION CONTROL

Sec. 401. Acid deposition control.
Sec. 402. Fossil fuel use.
Sec. 403. Repeal of percent reduction.
Sec. 404. Acid deposition standards.
Sec. 405. National acid lakes registry.
Sec. 406. Industrial SO_2 Emissions.
Sec. 407. Sense of the Congress on emission reductions costs.
Sec. 408. Monitor acid rain program in Canada.
Sec. 409. Report on clean coals technologies export programs.
Sec. 410. Acid deposition research by the United States Fish and Wildlife Service.
Sec. 411. Study of buffering and neutralizing agents.
Sec. 412. Conforming amendment.
Sec. 413. Special clean coal technology project.

SEC. 401. ACID DEPOSITION CONTROL.

The Clean Air Act is amended by adding the following new title after title III:

"TITLE IV—ACID DEPOSITION CONTROL

"Sec. 401. Findings and purpose.
"Sec. 402. Definitions.
"Sec. 403. Sulfur dioxide allowance program for existing and new units.
"Sec. 404. Phase I sulfur dioxide requirements.
"Sec. 405. Phase II sulfur dioxide requirements.
"Sec. 406. Allowances for States with emissions rates at or below 0.80 lbs/mmBtu.
"Sec. 407. Nitrogen oxides emission reduction program.
"Sec. 408. Permits and compliance plans.
"Sec. 409. Repowered sources.
"Sec. 410. Election for additional sources.
"Sec. 411. Excess emissions penalty.
"Sec. 412. Monitoring, reporting, and recordkeeping requirements.
"Sec. 413. General compliance with other provisions.
"Sec. 414. Enforcement.
"Sec. 415. Clean coal technology regulatory incentives.
"Sec. 416. Contingency guarantee; auctions, reserve.

42 USC 7651.

"SEC. 401. FINDINGS AND PURPOSES.

"(a) FINDINGS.—The Congress finds that—

"(1) the presence of acidic compounds and their precursors in the atmosphere and in deposition from the atmosphere represents a threat to natural resources, ecosystems, materials, visibility, and public health;

"(2) the principal sources of the acidic compounds and their precursors in the atmosphere are emissions of sulfur and nitrogen oxides from the combustion of fossil fuels;

"(3) the problem of acid deposition is of national and international significance;

"(4) strategies and technologies for the control of precursors to acid deposition exist now that are economically feasible, and improved methods are expected to become increasingly available over the next decade;

"(5) current and future generations of Americans will be adversely affected by delaying measures to remedy the problem;

"(6) reduction of total atmospheric loading of sulfur dioxide and nitrogen oxides will enhance protection of the public health and welfare and the environment; and

"(7) control measures to reduce precursor emissions from steam-electric generating units should be initiated without delay.

"(b) PURPOSES.—The purpose of this title is to reduce the adverse effects of acid deposition through reductions in annual emissions of sulfur dioxide of ten million tons from 1980 emission levels, and, in combination with other provisions of this Act, of nitrogen oxides emissions of approximately two million tons from 1980 emission levels, in the forty-eight contiguous States and the District of Columbia. It is the intent of this title to effectuate such reductions by requiring compliance by affected sources with prescribed emission limitations by specified deadlines, which limitations may be met through alternative methods of compliance provided by an emission allocation and transfer system. It is also the purpose of this title to encourage energy conservation, use of renewable and clean alternative technologies, and pollution prevention as a long-range strategy, consistent with the provisions of this title, for reducing air pollution and other adverse impacts of energy production and use.

"SEC. 402. DEFINITIONS. 42 USC 7651a.

"As used in this title:

"(1) The term 'affected source' means a source that includes one or more affected units.

"(2) The term 'affected unit' means a unit that is subject to emission reduction requirements or limitations under this title.

"(3) The term 'allowance' means an authorization, allocated to an affected unit by the Administrator under this title, to emit, during or after a specified calendar year, one ton of sulfur dioxide.

"(4) The term 'baseline' means the annual quantity of fossil fuel consumed by an affected unit, measured in millions of British Thermal Units ('mmBtu's'), calculated as follows:

"(A) For each utility unit that was in commercial operation prior to January 1, 1985, the baseline shall be the annual average quantity of mmBtu's consumed in fuel during calendar years 1985, 1986, and 1987, as recorded by the Department of Energy pursuant to Form 767. For any utility unit for which such form was not filed, the baseline shall be the level specified for such unit in the 1985 National Acid Precipitation Assessment Program (NAPAP) Emissions Inventory, Version 2, National Utility Reference File (NURF) or in a corrected data base as established by the Administrator pursuant to paragraph (3). For non-

utility units, the baseline is the NAPAP Emissions Inventory, Version 2. The Administrator, in the Administrator's sole discretion, may exclude periods during which a unit is shutdown for a continuous period of four calendar months or longer, and make appropriate adjustments under this paragraph. Upon petition of the owner or operator of any unit, the Administrator may make appropriate baseline adjustments for accidents that caused prolonged outages.

"(B) For any other nonutility unit that is not included in the NAPAP Emissions Inventory, Version 2, or a corrected data base as established by the Administrator pursuant to paragraph (3), the baseline shall be the annual average quantity, in mmBtu consumed in fuel by that unit, as calculated pursuant to a method which the administrator shall prescribe by regulation to be promulgated not later than eighteen months after enactment of the Clean Air Act Amendments of 1990.

"(C) The Administrator shall, upon application or on his own motion, by December 31, 1991, supplement data needed in support of this title and correct any factual errors in data from which affected Phase II units' baselines or actual 1985 emission rates have been calculated. Corrected data shall be used for purposes of issuing allowances under the title. Such corrections shall not be subject to judicial review, nor shall the failure of the Administrator to correct an alleged factual error in such reports be subject to judicial review.

"(5) The term 'capacity factor' means the ratio between the actual electric output from a unit and the potential electric output from that unit.

"(6) The term 'compliance plan' means, for purposes of the requirements of this title, either—

"(A) a statement that the source will comply with all applicable requirements under this title, or

"(B) where applicable, a schedule and description of the method or methods for compliance and certification by the owner or operator that the source is in compliance with the requirements of this title.

"(7) The term 'continuous emission monitoring system' (CEMS) means the equipment as required by section 412, used to sample, analyze, measure, and provide on a continuous basis a permanent record of emissions and flow (expressed in pounds per million British thermal units (lbs/mmBtu), pounds per hour (lbs/hr) or such other form as the Administrator may prescribe by regulations under section 412).

"(8) The term 'existing unit' means a unit (including units subject to section 111) that commenced commercial operation before the date of enactment of the Clean Air Act Amendments of 1990. Any unit that commenced commercial operation before the date of enactment of the Clean Air Act Amendments of 1990 which is modified, reconstructed, or repowered after the date of enactment of the Clean Air Act Amendments of 1990 shall continue to be an existing unit for the purposes of this title. For the purposes of this title, existing units shall not include simple combustion turbines, or units which serve a generator with a nameplate capacity of 25MWe or less.

"(9) The term 'generator' means a device that produces electricity and which is reported as a generating unit pursuant to Department of Energy Form 860.

"(10) The term 'new unit' means a unit that commences commercial operation on or after the date of enactment of the Clean Air Act Amendments of 1990.

"(11) The term 'permitting authority' means the Administrator, or the State or local air pollution control agency, with an approved permitting program under part B of title III of the Act.

"(12) The term 'repowering' means replacement of an existing coal-fired boiler with one of the following clean coal technologies: atmospheric or pressurized fluidized bed combustion, integrated gasification combined cycle, magnetohydrodynamics, direct and indirect coal-fired turbines, integrated gasification fuel cells, or as determined by the Administrator, in consultation with the Secretary of Energy, a derivative of one or more of these technologies, and any other technology capable of controlling multiple combustion emissions simultaneously with improved boiler or generation efficiency and with significantly greater waste reduction relative to the performance of technology in widespread commercial use as of the date of enactment of the Clean Air Act Amendments of 1990. Notwithstanding the provisions of section 409(a), for the purpose of this title, the term 'repowering' shall also include any oil and/or gas-fired unit which has been awarded clean coal technology demonstration funding as of January 1, 1991, by the Department of Energy.

"(13) The term 'reserve' means any bank of allowances established by the Administrator under this title.

"(14) The term 'State' means one of the 48 contiguous States and the District of Columbia.

"(15) The term 'unit' means a fossil fuel-fired combustion device.

"(16) The term 'actual 1985 emission rate', for electric utility units means the annual sulfur dioxide or nitrogen oxides emission rate in pounds per million Btu as reported in the NAPAP Emissions Inventory, Version 2, National Utility Reference File. For nonutility units, the term 'actual 1985 emission rate' means the annual sulfur dioxide or nitrogen oxides emission rate in pounds per million Btu as reported in the NAPAP Emission Inventory, Version 2.

"(17)(A) The term 'utility unit' means—

"(i) a unit that serves a generator in any State that produces electricity for sale, or

"(ii) a unit that, during 1985, served a generator in any State that produced electricity for sale.

"(B) Notwithstanding subparagraph (A), a unit described in subparagraph (A) that—

"(i) was in commercial operation during 1985, but

"(ii) did not, during 1985, serve a generator in any State that produced electricity for sale shall not be a utility unit for purposes of this title.

"(C) A unit that cogenerates steam and electricity is not a 'utility unit' for purposes of this title unless the unit is constructed for the purpose of supplying, or commences construction after the date of enactment of this title and supplies, more

than one-third of its potential electric output capacity and more than 25 megawatts electrical output to any utility power distribution system for sale.

"(18) The term 'allowable 1985 emissions rate' means a federally enforceable emissions limitation for sulfur dioxide or oxides of nitrogen, applicable to the unit in 1985 or the limitation applicable in such other subsequent year as determined by the Administrator if such a limitation for 1985 does not exist. Where the emissions limitation for a unit is not expressed in pounds of emissions per million Btu, or the averaging period of that emissions limitation is not expressed on an annual basis, the Administrator shall calculate the annual equivalent of that emissions limitation in pounds per million Btu to establish the allowable 1985 emissions rate.

"(19) The term 'qualifying phase I technology' means a technological system of continuous emission reduction which achieves a 90 percent reduction in emissions of sulfur dioxide from the emissions that would have resulted from the use of fuels which were not subject to treatment prior to combustion.

"(20) The term 'alternative method of compliance' means a method of compliance in accordance with one or more of the following authorities:

"(A) a substitution plan submitted and approved in accordance with subsections 404 (b) and (c);

"(B) a Phase I extension plan approved by the Administrator under section 404(d), using qualifying phase I technology as determined by the Administrator in accordance with that section; or

"(C) repowering with a qualifying clean coal technology under section 409.

"(21) The term 'commenced' as applied to construction of any new electric utility unit means that an owner or operator has undertaken a continuous program of construction or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction.

"(22) The term 'commenced commercial operation' means to have begun to generate electricity for sale.

"(23) The term 'construction' means fabrication, erection, or installation of an affected unit.

"(24) The term 'industrial source' means a unit that does not serve a generator that produces electricity, a 'nonutility unit' as defined in this section, or a process source as defined in section 410(e).

"(25) The term 'nonutility unit' means a unit other than a utility unit.

"(26) The term 'designated representative' means a responsible person or official authorized by the owner or operator of a unit to represent the owner or operator in matters pertaining to the holding, transfer, or disposition of allowances allocated to a unit, and the submission of and compliance with permits, permit applications, and compliance plans for the unit.

"(27) The term 'life-of-the-unit, firm power contractual arrangement' means a unit participation power sales agreement under which a utility or industrial customer reserves, or is entitled to receive, a specified amount or percentage of capacity and associated energy generated by a specified generating unit

(or units) and pays its proportional amount of such unit's total costs, pursuant to a contract either—

"(A) for the life of the unit;

"(B) for a cumulative term of no less than 30 years, including contracts that permit an election for early termination; or

"(C) for a period equal to or greater than 25 years or 70 percent of the economic useful life of the unit determined as of the time the unit was built, with option rights to purchase or re-lease some portion of the capacity and associated energy generated by the unit (or units) at the end of the period.

"(28) The term 'basic Phase II allowance allocations' means:

"(A) For calendar years 2000 through 2009 inclusive, allocations of allowances made by the Administrator pursuant to section 403 and subsections (b)(1), (3), and (4); (c)(1), (2), (3), and (5); (d)(1), (2), (4), and (5); (e); (f); (g)(1), (2), (3), (4), and (5); (h)(1); (i) and (j) of section 405.

"(B) For each calendar year beginning in 2010, allocations of allowances made by the Administrator pursuant to section 403 and subsections (b)(1), (3), and (4); (c)(1), (2), (3), and (5); (d)(1), (2), (4) and (5); (e); (f); (g)(1), (2), (3), (4), and (5); (h)(1) and (3); (i) and (j) of section 405.

"(29) The term 'Phase II bonus allowance allocations' means, for calendar year 2000 through 2009, inclusive, and only for such years, allocations made by the Administrator pursuant to section 403, subsections (a)(2), (b)(2), (c)(4), (d)(3) (except as otherwise provided therein), and (h)(2) of section 405, and section 406.

"SEC. 403. SULFUR DIOXIDE ALLOWANCE PROGRAM FOR EXISTING AND NEW UNITS. 42 USC 7651b.

"(a) ALLOCATIONS OF ANNUAL ALLOWANCES FOR EXISTING AND NEW UNITS.—(1) For the emission limitation programs under this title, the Administrator shall allocate annual allowances for the unit, to be held or distributed by the designated representative of the owner or operator of each affected unit at an affected source in accordance with this title, in an amount equal to the annual tonnage emission limitation calculated under section 404, 405, 406, 409, or 410 except as otherwise specifically provided elsewhere in this title. Except as provided in sections 405(a)(2), 405(a)(3), 409 and 410, beginning January 1, 2000, the Administrator shall not allocate annual allowances to emit sulfur dioxide pursuant to section 405 in such an amount as would result in total annual emissions of sulfur dioxide from utility units in excess of 8.90 million tons except that the Administrator shall not take into account unused allowances carried forward by owners and operators of affected units or by other persons holding such allowances, following the year for which they were allocated. If necessary to meeting the restrictions imposed in the preceding sentence, the Administrator shall reduce, pro rata, the basic Phase II allowance allocations for each unit subject to the requirements of section 405. Subject to the provisions of section 416, the Administrator shall allocate allowances for each affected unit at an affected source annually, as provided in paragraphs (2) and (3) and section 408. Except as provided in sections 409 and 410, the removal of an existing affected unit or source from commercial operation at any time after the date of the enactment of the Clean Air Act Amendments of 1990 (whether before or after January 1,

1995, or January 1, 2000) shall not terminate or otherwise affect the allocation of allowances pursuant to section 404 or 405 to which the unit is entitled. Allowances shall be allocated by the Administrator without cost to the recipient, except for allowances sold by the Administrator pursuant to section 416. Not later than December 31, 1991, the Administrator shall publish a proposed list of the basic Phase II allowance allocations, the Phase II bonus allowance allocations and, if applicable, allocations pursuant to section 405(a)(3) for each unit subject to the emissions limitation requirements of section 405 for the year 2000 and the year 2010. After notice and opportunity for public comment, but not later than December 31, 1992, the Administrator shall publish a final list of such allocations, subject to the provisions of section 405(a)(2). Any owner or operator of an existing unit subject to the requirements of section 405(b) or (c) who is considering applying for an extension of the emission limitation requirement compliance deadline for that unit from January 1, 2000, until not later than December 31, 2000, pursuant to section 409, shall notify the Administrator no later than March 31, 1991. Such notification shall be used as the basis for estimating the basic Phase II allowances under this subsection. Prior to June 1, 1998, the Administrator shall publish a revised final statement of allowance allocations, subject to the provisions of section 405(a)(2) and taking into account the effect of any compliance date extensions granted pursuant to section 409 on such allocations. Any person who may make an election concerning the amount of allowances to be allocated to a unit or units shall make such election and so inform the Administrator not later than March 31, 1991, in the case of an election under section 405 (or June 30, 1991, in the case of an election under section 406). If such person fails to make such election, the Administrator shall set forth for each unit owned or operated by such person, the amount of allowances reflecting the election that would, in the judgment of the Administrator, provide the greatest benefit for the owner or operator of the unit. If such person is a Governor who may make an election under section 406 and the Governor fails to make an election, the Administrator shall set forth for each unit in the State the amount of allowances reflecting the election that would, in the judgment of the Administrator, provide the greatest benefit for units in the State.

Regulations.

"(b) ALLOWANCE TRANSFER SYSTEM.—Allowances allocated under this title may be transferred among designated representatives of the owners or operators of affected sources under this title and any other person who holds such allowances, as provided by the allowance system regulations to be promulgated by the Administrator not later than eighteen months after the date of enactment of the Clean Air Act Amendments of 1990. Such regulations shall establish the allowance system prescribed under this section, including, but not limited to, requirements for the allocation, transfer, and use of allowances under this title. Such regulations shall prohibit the use of any allowance prior to the calendar year for which the allowance was allocated, and shall provide, consistent with the purposes of this title, for the identification of unused allowances, and for such unused allowances to be carried forward and added to allowances allocated in subsequent years, including allowances allocated to units subject to Phase I requirements (as described in section 404) which are applied to emissions limitations requirements in Phase II (as described in section 405). Transfers of allowances shall not be effective until written certification of the transfer, signed by a

responsible official of each party to the transfer, is received and recorded by the Administrator. Such regulations shall permit the transfer of allowances prior to the issuance of such allowances. Recorded pre-allocation transfers shall be deducted by the Administrator from the number of allowances which would otherwise be allocated to the transferor, and added to those allowances allocated to the transferee. Pre-allocation transfers shall not affect the prohibition contained in this subsection against the use of allowances prior to the year for which they are allocated.

"(c) INTERPOLLUTANT TRADING.—Not later than January 1, 1994, the Administrator shall furnish to the Congress a study evaluating the environmental and economic consequences of amending this title to permit trading sulfur dioxide allowances for nitrogen oxides allowances.

"(d) ALLOWANCE TRACKING SYSTEM.—(1) The Administrator shall promulgate, not later than 18 months after the date of enactment of the Clean Air Act Amendments of 1990, a system for issuing, recording, and tracking allowances, which shall specify all necessary procedures and requirements for an orderly and competitive functioning of the allowance system. All allowance allocations and transfers shall, upon recordation by the Administrator, be deemed a part of each unit's permit requirements pursuant to section 408, without any further permit review and revision. Regulations.

"(2) In order to insure electric reliability, such regulations shall not prohibit or affect temporary increases and decreases in emissions within utility systems, power pools, or utilities entering into allowance pool agreements, that result from their operations, including emergencies and central dispatch, and such temporary emissions increases and decreases shall not require transfer of allowances among units nor shall it require recordation. The owners or operators of such units shall act through a designated representative. Notwithstanding the preceding sentence, the total tonnage of emissions in any calendar year (calculated at the end thereof) from all units in such a utility system, power pool, or allowance pool agreements shall not exceed the total allowances for such units for the calendar year concerned.

"(e) NEW UTILITY UNITS.—After January 1, 2000, it shall be unlawful for a new utility unit to emit an annual tonnage of sulfur dioxide in excess of the number of allowances to emit held for the unit by the unit's owner or operator. Such new utility units shall not be eligible for an allocation of sulfur dioxide allowances under subsection (a)(1), unless the unit is subject to the provisions of subsection (g)(2) or (3) of section 405. New utility units may obtain allowances from any person, in accordance with this title. The owner or operator of any new utility unit in violation of this subsection shall be liable for fulfilling the obligations specified in section 411 of this title.

"(f) NATURE OF ALLOWANCES.—An allowance allocated under this title is a limited authorization to emit sulfur dioxide in accordance with the provisions of this title. Such allowance does not constitute a property right. Nothing in this title or in any other provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization. Nothing in this section relating to allowances shall be construed as affecting the application of, or compliance with, any other provision of this Act to an affected unit or source, including the provisions related to applicable National Ambient Air Quality Standards and State implementation

plans. Nothing in this section shall be construed as requiring a change of any kind in any State law regulating electric utility rates and charges or affecting any State law regarding such State regulation or as limiting State regulation (including any prudency review) under such a State law. Nothing in this section shall be construed as modifying the Federal Power Act or as affecting the authority of the Federal Energy Regulatory Commission under that Act. Nothing in this title shall be construed to interfere with or impair any program for competitive bidding for power supply in a State in which such program is established. Allowances, once allocated to a person by the Administrator, may be received, held, and temporarily or permanently transferred in accordance with this title and the regulations of the Administrator without regard to whether or not a permit is in effect under title V or section 408 with respect to the unit for which such allowance was originally allocated and recorded. Each permit under this title and each permit issued under title V for any affected unit shall provide that the affected unit may not emit an annual tonnage of sulfur dioxide in excess of the allowances held for that unit.

"(g) PROHIBITION.—It shall be unlawful for any person to hold, use, or transfer any allowance allocated under this title, except in accordance with regulations promulgated by the Administrator. It shall be unlawful for any affected unit to emit sulfur dioxide in excess of the number of allowances held for that unit for that year by the owner or operator of the unit. Upon the allocation of allowances under this title, the prohibition contained in the preceding sentence shall supersede any other emission limitation applicable under this title to the units for which such allowances are allocated. Allowances may not be used prior to the calendar year for which they are allocated. Nothing in this section or in the allowance system regulations shall relieve the Administrator of the Administrator's permitting, monitoring and enforcement obligations under this Act, nor relieve affected sources of their requirements and liabilities under this Act.

"(h) COMPETITIVE BIDDING FOR POWER SUPPLY.—Nothing in this title shall be construed to interfere with or impair any program for competitive bidding for power supply in a State in which such program is established.

"(i) APPLICABILITY OF THE ANTITRUST LAWS.—

"(1) Nothing in this section affects—

"(A) the applicability of the antitrust laws to the transfer, use, or sale of allowances, or

"(B) the authority of the Federal Energy Regulatory Commission under any provision of law respecting unfair methods of competition or anticompetitive acts or practices.

"(2) As used in this section, 'antitrust laws' means those Acts set forth in section 1 of the Clayton Act (15 U.S.C. 12), as amended.

"(j) PUBLIC UTILITY HOLDING COMPANY ACT.—The acquisition or disposition of allowances pursuant to this title including the issuance of securities or the undertaking of any other financing transaction in connection with such allowances shall not be subject to the provisions of the Public Utility Holding Company Act of 1935.

42 USC 7651c.

"SEC. 404. PHASE I SULFUR DIOXIDE REQUIREMENTS.

"(a) EMISSION LIMITATIONS.—(1) After January 1, 1995, each source that includes one or more affected units listed in table A is an

affected source under this section. After January 1, 1995, it shall be unlawful for any affected unit (other than an eligible phase I unit under section 404(d)(2)) to emit sulfur dioxide in excess of the tonnage limitation stated as a total number of allowances in table A for phase I, unless (A) the emissions reduction requirements applicable to such unit have been achieved pursuant to subsection (b) or (d), or (B) the owner or operator of such unit holds allowances to emit not less than the unit's total annual emissions, except that, after January 1, 2000, the emissions limitations established in this section shall be superseded by those established in section 405. The owner or operator of any unit in violation of this section shall be fully liable for such violation including, but not limited to, liability for fulfilling the obligations specified in section 411.

"(2) Not later than December 31, 1991, the Administrator shall determine the total tonnage of reductions in the emissions of sulfur dioxide from all utility units in calendar year 1995 that will occur as a result of compliance with the emissions limitation requirements of this section, and shall establish a reserve of allowances equal in amount to the number of tons determined thereby not to exceed a total of 3.50 million tons. In making such a determination, the Administrator shall compute for each unit subject to the emissions limitation requirements of this section the difference between:

"(A) the product of its baseline multiplied by the lesser of each unit's allowable 1985 emissions rate and its actual 1985 emissions rate, divided by 2,000, and

"(B) the product of each unit's baseline multiplied by 2.50 lbs/mmBtu divided by 2,000,

and sum the computations. The Administrator shall adjust the foregoing calculation to reflect projected calendar year 1995 utilization of the units subject to the emissions limitations of this title that the Administrator finds would have occurred in the absence of the imposition of such requirements. Pursuant to subsection (d), the Administrator shall allocate allowances from the reserve established hereinunder until the earlier of such time as all such allowances in the reserve are allocated or December 31, 1999.

"(3) In addition to allowances allocated pursuant to paragraph (1), in each calendar year beginning in 1995 and ending in 1999, inclusive, the Administrator shall allocate for each unit on Table A that is located in the States of Illinois, Indiana, or Ohio (other than units at Kyger Creek, Clifty Creek and Joppa Steam), allowances in an amount equal to 200,000 multiplied by the unit's pro rata share of the total number of allowances allocated for all units on Table A in the 3 States (other than units at Kyger Creek, Clifty Creek, and Joppa Steam) pursuant to paragraph (1). Such allowances shall be excluded from the calculation of the reserve under paragraph (2). State listing.

"(b) SUBSTITUTIONS.—The owner or operator of an affected unit under subsection (a) may include in its section 408 permit application and proposed compliance plan a proposal to reassign, in whole or in part, the affected unit's sulfur dioxide reduction requirements to any other unit(s) under the control of such owner or operator. Such proposal shall specify—

"(1) the designation of the substitute unit or units to which any part of the reduction obligations of subsection (a) shall be required, in addition to, or in lieu of, any original affected units designated under such subsection;

"(2) the original affected unit's baseline, the actual and allowable 1985 emissions rate for sulfur dioxide, and the authorized annual allowance allocation stated in table A;

"(3) calculation of the annual average tonnage for calendar years 1985, 1986, and 1987, emitted by the substitute unit or units, based on the baseline for each unit, as defined in section 402(d), multiplied by the lesser of the unit's actual or allowable 1985 emissions rate;

"(4) the emissions rates and tonnage limitations that would be applicable to the original and substitute affected units under the substitution proposal;

"(5) documentation, to the satisfaction of the Administrator, that the reassigned tonnage limits will, in total, achieve the same or greater emissions reduction than would have been achieved by the original affected unit and the substitute unit or units without such substitution; and

"(6) such other information as the Administrator may require.

"(c) ADMINISTRATOR'S ACTION ON SUBSTITUTION PROPOSALS.—(1) The Administrator shall take final action on such substitution proposal in accordance with section 408(c) if the substitution proposal fulfills the requirements of this subsection. The Administrator may approve a substitution proposal in whole or in part and with such modifications or conditions as may be consistent with the orderly functioning of the allowance system and which will ensure the emissions reductions contemplated by this title. If a proposal does not meet the requirements of subsection (b), the Administrator shall disapprove it. The owner or operator of a unit listed in table A shall not substitute another unit or units without the prior approval of the Administrator.

"(2) Upon approval of a substitution proposal, each substitute unit, and each source with such unit, shall be deemed affected under this title, and the Administrator shall issue a permit to the original and substitute affected source and unit in accordance with the approved substitution plan and section 408. The Administrator shall allocate allowances for the original and substitute affected units in accordance with the approved substitution proposal pursuant to section 403. It shall be unlawful for any source or unit that is allocated allowances pursuant to this section to emit sulfur dioxide in excess of the emissions limitation provided for in the approved substitution permit and plan unless the owner or operator of each unit governed by the permit and approved substitution plan holds allowances to emit not less than the units total annual emissions. The owner or operator of any original or substitute affected unit operated in violation of this subsection shall be fully liable for such violation, including liability for fulfilling the obligations specified in section 411 of this title. If a substitution proposal is disapproved, the Administrator shall allocate allowances to the original affected unit or units in accordance with subsection (a).

"(d) ELIGIBLE PHASE I EXTENSION UNITS.—(1) The owner or operator of any affected unit subject to an emissions limitation requirement under this section may petition the Administrator in its permit application under section 408 for an extension of 2 years of the deadline for meeting such requirement, provided that the owner or operator of any such unit holds allowances to emit not less than the unit's total annual emissions for each of the 2 years of the period of extension. To qualify for such an extension, the affected unit must

either employ a qualifying phase I technology, or transfer its phase I emissions reduction obligation to a unit employing a qualifying phase I technology. Such transfer shall be accomplished in accordance with a compliance plan, submitted and approved under section 408, that shall govern operations at all units included in the transfer, and that specifies the emissions reduction requirements imposed pursuant to this title.

"(2) Such extension proposal shall—

"(A) specify the unit or units proposed for designation as an eligible phase I extension unit;

"(B) provide a copy of an executed contract, which may be contingent upon the Administrator approving the proposal, for the design engineering, and construction of the qualifying phase I technology for the extension unit, or for the unit or units to which the extension unit's emission reduction obligation is to be transferred;

"(C) specify the unit's or units' baseline, actual 1985 emissions rate, allowable 1985 emissions rate, and projected utilization for calendar years 1995 through 1999;

"(D) require CEMS on both the eligible phase I extension unit or units and the transfer unit or units beginning no later than January 1, 1995; and

"(E) specify the emission limitation and number of allowances expected to be necessary for annual operation after the qualifying phase I technology has been installed.

"(3) The Administrator shall review and take final action on each extension proposal in order of receipt, consistent with section 408, and for an approved proposal shall designate the unit or units as an eligible phase I extension unit. The Administrator may approve an extension proposal in whole or in part, and with such modifications or conditions as may be necessary, consistent with the orderly functioning of the allowance system, and to ensure the emissions reductions contemplated by the title.

"(4) In order to determine the number of proposals eligible for allocations from the reserve under subsection (a)(2) and the number of allowances remaining available after each proposal is acted upon, the Administrator shall reduce the total number of allowances remaining available in the reserve by the number of allowances calculated according to subparagraphs (A), (B) and (C) until either no allowances remain available in the reserve for further allocation or all approved proposals have been acted upon. If no allowances remain available in the reserve for further allocation before all proposals have been acted upon by the Administrator, any pending proposals shall be disapproved. The Administrator shall calculate allowances equal to—

"(A) the difference between the lesser of the average annual emissions in calendar years 1988 and 1989 or the projected emissions tonnage for calendar year 1995 of each eligible phase I extension unit, as designated under paragraph (3), and the product of the unit's baseline multiplied by an emission rate of 2.50 lbs/mmBtu, divided by 2,000;

"(B) the difference between the lesser of the average annual emissions in calendar years 1988 and 1989 or the projected emissions tonnage for calendar year 1996 of each eligible phase I extension unit, as designated under paragraph (3), and the product of the unit's baseline multiplied by an emission rate of 2.50 lbs/mmBtu, divided by 2,000; and

"(C) the amount by which (i) the product of each unit's baseline multiplied by an emission rate of 1.20 lbs/mmBtu, divided by 2,000, exceeds (ii) the tonnage level specified under subparagraph (E) of paragraph (2) of this subsection multiplied by a factor of 3.

"(5) Each eligible Phase I extension unit shall receive allowances determined under subsection (a)(1) or (c) of this section. In addition, for calendar year 1995, the Administrator shall allocate to each eligible Phase I extension unit, from the allowance reserve created pursuant to subsection (a)(2), allowances equal to the difference between the lesser of the average annual emissions in calendar years 1988 and 1989 or its projected emissions tonnage for calendar year 1995 and the product of the unit's baseline multiplied by an emission rate of 2.50 lbs/mmBtu, divided by 2,000. In calendar year 1996, the Administrator shall allocate for each eligible unit, from the allowance reserve created pursuant to subsection (a)(2), allowances equal to the difference between the lesser of the average annual emissions in calendar years 1988 and 1989 or its projected emissions tonnage for calendar year 1996 and the product of the unit's baseline multiplied by an emission rate of 2.50 lbs/mmBtu, divided by 2,000. It shall be unlawful for any source or unit subject to an approved extension plan under this subsection to emit sulfur dioxide in excess of the emissions limitations provided for in the permit and approved extension plan, unless the owner or operator of each unit governed by the permit and approved plan holds allowances to emit not less than the unit's total annual emissions.

"(6) In addition to allowances specified in paragraph (5), the Administrator shall allocate for each eligible Phase I extension unit employing qualifying Phase I technology, for calendar years 1997, 1998, and 1999, additional allowances, from any remaining allowances in the reserve created pursuant to subsection (a)(2), following the reduction in the reserve provided for in paragraph (4), not to exceed the amount by which (A) the product of each eligible unit's baseline times an emission rate of 1.20 lbs/mmBtu, divided by 2,000, exceeds (B) the tonnage level specified under subparagraph (E) of paragraph (2) of this subsection.

"(7) After January 1, 1997, in addition to any liability under this Act, including under section 411, if any eligible phase I extension unit employing qualifying phase I technology or any transfer unit under this subsection emits sulfur dioxide in excess of the annual tonnage limitation specified in the extension plan, as approved in paragraph (3) of this subsection, the Administrator shall, in the calendar year following such excess, deduct allowances equal to the amount of such excess from such unit's annual allowance allocation.

"(e)(1) In the case of a unit that receives authorization from the Governor of the State in which such unit is located to make reductions in the emissions of sulfur dioxide prior to calendar year 1995 and that is part of a utility system that meets the following requirements: (A) the total coal-fired generation within the utility system as a percentage of total system generation decreased by more than 20 percent between January 1, 1980, and December 31, 1985; and (B) the weighted capacity factor of all coal-fired units within the utility system averaged over the period from January 1, 1985, through December 31, 1987, was below 50 percent, the Administrator shall allocate allowances under this paragraph for the unit pursuant to this subsection. The Administrator shall allocate allowances for a unit that is an affected unit pursuant to section 405 (but is not also

an affected unit under this section) and part of a utility system that includes 1 or more affected units under section 405 for reductions in the emissions of sulfur dioxide made during the period 1995–1999 if the unit meets the requirements of this subsection and the requirements of the preceding sentence, except that for the purposes of applying this subsection to any such unit, the prior year concerned as specified below, shall be any year after January 1, 1995 but prior to January 1, 2000.

"(2) In the case of an affected unit under this section described in subparagraph (A), the allowances allocated under this subsection for early reductions in any prior year may not exceed the amount which (A) the product of the unit's baseline multiplied by the unit's 1985 actual sulfur dioxide emission rate (in lbs. per mmBtu), divided by 2,000, exceeds (B) the allowances specified for such unit in Table A. In the case of an affected unit under section 405 described in subparagraph (A), the allowances awarded under this subsection for early reductions in any prior year may not exceed the amount by which (i) the product of the quantity of fossil fuel consumed by the unit (in mmBtu) in the prior year multiplied by the lesser of 2.50 or the most stringent emission rate (in lbs. per mmBtu) applicable to the unit under the applicable implementation plan, divided by 2,000, exceeds (ii) the unit's actual tonnage of sulfur dioxide emission for the prior year concerned. Allowances allocated under this subsection for units referred to in subparagraph (A) may be allocated only for emission reductions achieved as a result of physical changes or changes in the method of operation made after the date of enactment of the Clean Air Act Amendments of 1990, including changes in the type or quality of fossil fuel consumed.

"(3) In no event shall the provisions of this paragraph be interpreted as an event of force majeur or a commercial impractibility or in any other way as a basis for excused nonperformance by a utility system under a coal sales contract in effect before the date of enactment of the Clean Air Act Amendments of 1990.

"TABLE A.—AFFECTED SOURCES AND UNITS IN PHASE I AND THEIR SULFUR DIOXIDE ALLOWANCES (TONS)

State	Plant Name	Generator	Phase I Allowances
Alabama	Colbert	1	13,570
		2	15,310
		3	15,400
		4	15,410
		5	37,180
	E.C. Gaston	1	18,100
		2	18,540
		3	18,310
		4	19,280
		5	59,840
Florida	Big Bend	1	28,410
		2	27,100
		3	26,740
	Crist	6	19,200
		7	31,680
Georgia	Bowen	1	56,320
		2	54,770
		3	71,750

State	Plant Name	Generator	Phase I Allowances
		4	71,740
	Hammond	1	8,780
		2	9,220
		3	8,910
		4	37,640
	J. McDonough	1	19,910
		2	20,600
	Wansley	1	70,770
		2	65,430
	Yates	1	7,210
		2	7,040
		3	6,950
		4	8,910
		5	9,410
		6	24,760
		7	21,480
Illinois	Baldwin	1	42,010
		2	44,420
		3	42,550
	Coffeen	1	11,790
		2	35,670
	Grand Tower	4	5,910
	Hennepin	2	18,410
	Joppa Steam	1	12,590
		2	10,770
		3	12,270
		4	11,360
		5	11,420
		6	10,620
	Kincaid	1	31,530
		2	33,810
	Meredosia	3	13,890
	Vermilion	2	8,880
Indiana	Bailly	7	11,180
		8	15,630
	Breed	1	18,500
	Cayuga	1	33,370
		2	34,130
	Clifty Creek	1	20,150
		2	19,810
		3	20,410
		4	20,080
		5	19,360
		6	20,380
	E. W. Stout	5	3,880
		6	4,770
		7	23,610
	F. B. Culley	2	4,290
		3	16,970
	F. E. Ratts	1	8,330
		2	8,480
	Gibson	1	40,400
		2	41,010
		3	41,080
		4	40,320
	H. T. Pritchard	6	5,770
	Michigan City	12	23,310
	Petersburg	1	16,430
		2	32,380
	R. Gallagher	1	6,490
		2	7,280
		3	6,530
		4	7,650

State	Plant Name	Generator	Phase I Allowances
	Tanners Creek	4	24,820
	Wabash River	1	4,000
		2	2,860
		3	3,750
		5	3,670
		6	12,280
	Warrick	4	26,980
Iowa	Burlington	1	10,710
	Des Moines	7	2,320
	George Neal	1	1,290
	M.L. Kapp	2	13,800
	Prairie Creek	4	8,180
	Riverside	5	3,990
Kansas	Quindaro	2	4,220
Kentucky	Coleman	1	11,250
		2	12,840
		3	12,340
	Cooper	1	7,450
		2	15,320
	E.W. Brown	1	7,110
		2	10,910
		3	26,100
	Elmer Smith	1	6,520
		2	14,410
	Ghent	1	28,410
	Green River	4	7,820
	H.L. Spurlock	1	22,780
	Henderson II	1	13,340
		2	12,310
	Paradise	3	59,170
	Shawnee	10	10,170
Maryland	Chalk Point	1	21,910
		2	24,330
	C. P. Crane	1	10,330
		2	9,230
	Morgantown	1	35,260
		2	38,480
Michigan	J. H. Campbell	1	19,280
		2	23,060
Minnesota	High Bridge	6	4,270
Mississippi	Jack Watson	4	17,910
		5	36,700
Missouri	Asbury	1	16,190
	James River	5	4,850
	Labadie	1	40,110
		2	37,710
		3	40,310
		4	35,940
	Montrose	1	7,390
		2	8,200
		3	10,090
	New Madrid	1	28,240
		2	32,480
	Sibley	3	15,580
	Sioux	1	22,570
		2	23,690
	Thomas Hill	1	10,250
		2	19,390
New Hampshire	Merrimack	1	10,190
		2	22,000
New Jersey	B.L. England	1	9,060
		2	11,720

State	Plant Name	Generator	Phase I Allowances
New York	Dunkirk	3	12,600
		4	14,060
	Greenidge	4	7,540
	Milliken	1	11,170
		2	12,410
	Northport	1	19,810
		2	24,110
		3	26,480
	Port Jefferson	3	10,470
		4	12,330
Ohio	Ashtabula	5	16,740
	Avon Lake	8	11,650
		9	30,480
	Cardinal	1	34,270
		2	38,320
	Conesville	1	4,210
		2	4,890
		3	5,500
		4	48,770
	Eastlake	1	7,800
		2	8,640
		3	10,020
		4	14,510
		5	34,070
	Edgewater	4	5,050
	Gen. J.M. Gavin	1	79,080
		2	80,560
	Kyger Creek	1	19,280
		2	18,560
		3	17,910
		4	18,710
		5	18,740
	Miami Fort	5	760
		6	11,380
		7	38,510
	Muskingum River	1	14,880
		2	14,170
		3	13,950
		4	11,780
		5	40,470
	Niles	1	6,940
		2	9,100
	Picway	5	4,930
	R.E. Burger	3	6,150
		4	10,780
		5	12,430
	W.H. Sammis	5	24,170
		6	39,930
		7	43,220
	W.C. Beckjord	5	8,950
		6	23,020
Pennsylvania	Armstrong	1	14,410
		2	15,430
	Brunner Island	1	27,760
		2	31,100
		3	53,820
	Cheswick	1	39,170
	Conemaugh	1	59,790
		2	66,450
	Hatfield's Ferry	1	37,830
		2	37,320
		3	40,270
	Martins Creek	1	12,660

State	Plant Name	Generator	Phase I Allowances
		2	12,820
	Portland	1	5,940
		2	10,230
	Shawville	1	10,320
		2	10,320
		3	14,220
		4	14,070
	Sunbury	3	8,760
		4	11,450
Tennessee	Allen	1	15,320
		2	16,770
		3	15,670
	Cumberland	1	86,700
		2	94,840
	Gallatin	1	17,870
		2	17,310
		3	20,020
		4	21,260
	Johnsonville	1	7,790
		2	8,040
		3	8,410
		4	7,990
		5	8,240
		6	7,890
		7	8,980
		8	8,700
		9	7,080
		10	7,550
West Virginia	Albright	3	12,000
	Fort Martin	1	41,590
		2	41,200
	Harrison	1	48,620
		2	46,150
		3	41,500
	Kammer	1	18,740
		2	19,460
		3	17,390
	Mitchell	1	43,980
		2	45,510
	Mount Storm	1	43,720
		2	35,580
		3	42,430
Wisconsin	Edgewater	4	24,750
	La Crosse/Genoa	3	22,700
	Nelson Dewey	1	6,010
		2	6,680
	N. Oak Creek	1	5,220
		2	5,140
		3	5,370
		4	6,320
	Pulliam	8	7,510
	S. Oak Creek	5	9,670
		6	12,040
		7	16,180
		8	15,790

"(f) ENERGY CONSERVATION AND RENEWABLE ENERGY.—

"(1) DEFINITIONS.—As used in this subsection:

"(A) QUALIFIED ENERGY CONSERVATION MEASURE.—The term 'qualified energy conservation measure' means a cost effective measure, as identified by the Administrator in consultation with the Secretary of Energy, that increases

the efficiency of the use of electricity provided by an electric utility to its customers.

"(B) QUALIFIED RENEWABLE ENERGY.—The term 'qualified renewable energy' means energy derived from biomass, solar, geothermal, or wind as identified by the Administrator in consultation with the Secretary of Energy.

"(C) ELECTRIC UTILITY.—The term 'electric utility' means any person, State agency, or Federal agency, which sells electric energy.

"(2) ALLOWANCES FOR EMISSIONS AVOIDED THROUGH ENERGY CONSERVATION AND RENEWABLE ENERGY.—

"(A) IN GENERAL.—The regulations under paragraph (4) of this subsection shall provide that for each ton of sulfur dioxide emissions avoided by an electric utility, during the applicable period, through the use of qualified energy conservation measures or qualified renewable energy, the Administrator shall allocate a single allowance to such electric utility, on a first-come-first-served basis from the Conservation and Renewable Energy Reserve established under subsection (g), up to a total of 300,000 allowances for allocation from such Reserve.

"(B) REQUIREMENTS FOR ISSUANCE.—The Administrator shall allocate allowances to an electric utility under this subsection only if all of the following requirements are met:

"(i) Such electric utility is paying for the qualified energy conservation measures or qualified renewable energy directly or through purchase from another person.

"(ii) The emissions of sulfur dioxide avoided through the use of qualified energy conservation measures or qualified renewable energy are quantified in accordance with regulations promulgated by the Administrator under this subsection.

"(iii)(I) Such electric utility has adopted and is implementing a least cost energy conservation and electric power plan which evaluates a range of resources, including new power supplies, energy conservation, and renewable energy resources, in order to meet expected future demand at the lowest system cost.

"(II) The qualified energy conservation measures or qualified renewable energy, or both, are consistent with that plan.

"(III) Electric utilities subject to the jurisdiction of a State regulatory authority must have such plan approved by such authority. For electric utilities not subject to the jurisdiction of a State regulatory authority such plan shall be approved by the entity with ratemaking authority for such utility.

"(iv) In the case of qualified energy conservation measures undertaken by a State regulated electric utility, the Secretary of Energy certifies that the State regulatory authority with jurisdiction over the electric rates of such electric utility has established rates and charges which ensure that the net income of such electric utility after implementation of specific cost effective energy conservation measures is at least as high as such net income would have been if the energy

conservation measures had not been implemented. Upon the date of any such certification by the Secretary of Energy, all allowances which, but for this paragraph, would have been allocated under subparagraph (A) before such date, shall be allocated to the electric utility. This clause is not a requirement for qualified renewable energy.

"(v) Such utility or any subsidiary of the utility's holding company owns or operates at least one affected unit.

"(C) PERIOD OF APPLICABILITY.—Allowances under this subsection shall be allocated only with respect to kilowatt hours of electric energy saved by qualified energy conservation measures or generated by qualified renewable energy after January 1, 1992 and before the earlier of (i) December 31, 2000, or (ii) the date on which any electric utility steam generating unit owned or operated by the electric utility to which the allowances are allocated becomes subject to this title (including those sources that elect to become affected by this title, pursuant to section 410).

"(D) DETERMINATION OF AVOIDED EMISSIONS.—

"(i) APPLICATION.—In order to receive allowances under this subsection, an electric utility shall make an application which—

"(I) designates the qualified energy conservation measures implemented and the qualified renewable energy sources used for purposes of avoiding emissions,

"(II) calculates, in accordance with subparagraphs (F) and (G), the number of tons of emissions avoided by reason of the implementation of such measures or the use of such renewable energy sources; and

"(III) demonstrates that the requirements of subparagraph (B) have been met.

Such application for allowances by a State-regulated electric utility shall require approval by the State regulatory authority with jurisdiction over such electric utility. The authority shall review the application for accuracy and compliance with this subsection and the rules under this subsection. Electric utilities whose retail rates are not subject to the jurisdiction of a State regulatory authority shall apply directly to the Administrator for such approval.

"(E) AVOIDED EMISSIONS FROM QUALIFIED ENERGY CONSERVATION MEASURES.—For the purposes of this subsection, the emission tonnage deemed avoided by reason of the implementation of qualified energy conservation measures for any calendar year shall be a tonnage equal to the product of multiplying—

"(i) the kilowatt hours that would otherwise have been supplied by the utility during such year in the absence of such qualified energy conservation measures, by

"(ii) 0.004,

and dividing by 2,000.

"(F) AVOIDED EMISSIONS FROM THE USE OF QUALIFIED RENEWABLE ENERGY.—The emissions tonnage deemed avoided by reason of the use of qualified renewable energy by an electric utility for any calendar year shall be a tonnage equal to the product of multiplying—

"(i) the actual kilowatt hours generated by, or purchased from, qualified renewable energy, by

"(ii) 0.004,

and dividing by 2,000.

"(G) PROHIBITIONS.—(i) No allowances shall be allocated under this subsection for the implementation of programs that are exclusively informational or educational in nature.

"(ii) No allowances shall be allocated for energy conservation measures or renewable energy that were operational before January 1, 1992.

"(3) SAVINGS PROVISION.—Nothing in this subsection precludes a State or State regulatory authority from providing additional incentives to utilities to encourage investment in demand-side resources.

"(4) REGULATIONS.—Not later than 18 months after the date of the enactment of the Clean Air Act Amendments of 1990 and in conjunction with the regulations required to be promulgated under subsections (b) and (c), the Administrator shall, in consultation with the Secretary of Energy, promulgate regulations under this subsection. Such regulations shall list energy conservation measures and renewable energy sources which may be treated as qualified energy conservation measures and qualified renewable energy for purposes of this subsection. Allowances shall only be allocated if all requirements of this subsection and the rules promulgated to implement this subsection are complied with. The Administrator shall review the determinations of each State regulatory authority under this subsection to encourage consistency from electric utility to electric utility and from State to State in accordance with the Administrator's rules. The Administrator shall publish the findings of this review no less than annually.

"(g) CONSERVATION AND RENEWABLE ENERGY RESERVE.—The Administrator shall establish a Conservation and Renewable Energy Reserve under this subsection. Beginning on January 1, 1995, the Administrator may allocate from the Conservation and Renewable Energy Reserve an amount equal to a total of 300,000 allowances for emissions of sulfur dioxide pursuant to section 403. In order to provide 300,000 allowances for such reserve, in each year beginning in calendar year 2000 and until calendar year 2009, inclusive, the Administrator shall reduce each unit's basic Phase II allowance allocation on the basis of its pro rata share of 30,000 allowances. If allowances remain in the reserve after January 2, 2010, the Administrator shall allocate such allowances for affected units under section 405 on a pro rata basis. For purposes of this subsection, for any unit subject to the emissions limitation requirements of section 405, the term 'pro rata basis' refers to the ratio which the reductions made in such unit's allowances in order to establish the reserve under this subsection bears to the total of such reductions for all such units.

"(h) ALTERNATIVE ALLOWANCE ALLOCATION FOR UNITS IN CERTAIN UTILITY SYSTEMS WITH OPTIONAL BASELINE.—

"(1) OPTIONAL BASELINE FOR UNITS IN CERTAIN SYSTEMS.—In the case of a unit subject to the emissions limitation requirements of this section which (as of the date of the enactment of the Clean Air Act Amendments of 1990)—

"(A) has an emission rate below 1.0 lbs/mmBtu,

"(B) has decreased its sulfur dioxide emissions rate by 60 percent or greater since 1980, and

"(C) is part of a utility system which has a weighted average sulfur dioxide emissions rate for all fossil fueled-fired units below 1.0 lbs/mmBtu,

at the election of the owner or operator of such unit, the unit's baseline may be calculated (i) as provided under section 402(d), or (ii) by utilizing the unit's average annual fuel consumption at a 60 percent capacity factor. Such election shall be made no later than March 1, 1991.

"(2) ALLOWANCE ALLOCATION.—Whenever a unit referred to in paragraph (1) elects to calculate its baseline as provided in clause (ii) of paragraph (1), the Administrator shall allocate allowances for the unit pursuant to section 403(a)(1), this section, and section 405 (as basic Phase II allowance allocations) in an amount equal to the baseline selected multiplied by the lower of the average annual emission rate for such unit in 1989, or 1.0 lbs./mmBtu. Such allowance allocation shall be in lieu of any allocation of allowances under this section and section 405.

"SEC. 405. PHASE II SULFUR DIOXIDE REQUIREMENTS. 42 USC 7651d.

"(a) APPLICABILITY.—(1) After January 1, 2000, each existing utility unit as provided below is subject to the limitations or requirements of this section. Each utility unit subject to an annual sulfur dioxide tonnage emission limitation under this section is an affected unit under this title. Each source that includes one or more affected units is an affected source. In the case of an existing unit that was not in operation during calendar year 1985, the emission rate for a calendar year after 1985, as determined by the Administrator, shall be used in lieu of the 1985 rate. The owner or operator of any unit operated in violation of this section shall be fully liable under this Act for fulfilling the obligations specified in section 411 of this title.

"(2) In addition to basic Phase II allowance allocations, in each year beginning in calendar year 2000 and ending in calendar year 2009, inclusive, the Administrator shall allocate up to 530,000 Phase II bonus allowances pursuant to subsections (b)(2), (c)(4), (d)(3)(A) and (B), and (h)(2) of this section and section 406. Not later than June 1, 1998, the Administrator shall calculate, for each unit granted an extension pursuant to section 409 the difference between (A) the number of allowances allocated for the unit in calendar year 2000, and (B) the product of the unit's baseline multiplied by 1.20 lbs/mmBtu, divided by 2000, and sum the computations. In each year, beginning in calendar year 2000 and ending in calendar year 2009, inclusive, the Administrator shall deduct from each unit's basic Phase II allowance allocation its pro rata share of 10 percent of the sum calculated pursuant to the preceding sentence.

"(3) In addition to basic Phase II allowance allocations and Phase II bonus allowance allocations, beginning January 1, 2000, the Administrator shall allocate for each unit listed on Table A in section 404 (other than units at Kyger Creek, Clifty Creek, and Joppa Steam) and located in the States of Illinois, Indiana, Ohio, Georgia, Alabama, Missouri, Pennsylvania, West Virginia, Ken- State listing.

tucky, or Tennessee allowances in an amount equal to 50,000 multiplied by the unit's pro rata share of the total number of basic allowances allocated for all units listed on Table A (other than units at Kyger Creek, Clifty Creek, and Joppa Steam). Allowances allocated pursuant to this paragraph shall not be subject to the 8,900,000 ton limitation in section 403(a).

"(b) UNITS EQUAL TO, OR ABOVE, 75 MWE AND 1.20 LBS/MMBTU.—(1) Except as otherwise provided in paragraph (3), after January 1, 2000, it shall be unlawful for any existing utility unit that serves a generator with nameplate capacity equal to, or greater, than 75 MWe and an actual 1985 emission rate equal to or greater than 1.20 lbs/mmBtu to exceed an annual sulfur dioxide tonnage emission limitation equal to the product of the unit's baseline multiplied by an emission rate equal to 1.20 lbs/mmBtu, divided by 2,000, unless the owner or operator of such unit holds allowances to emit not less than the unit's total annual emissions.

"(2) In addition to allowances allocated pursuant to paragraph (1) and section 403(a)(1) as basic Phase II allowance allocations, beginning January 1, 2000, and for each calendar year thereafter until and including 2009, the Administrator shall allocate annually for each unit subject to the emissions limitation requirements of paragraph (1) with an actual 1985 emissions rate greater than 1.20 lbs/mmBtu and less than 2.50 lbs/mmBtu and a baseline capacity factor of less than 60 percent, allowances from the reserve created pursuant to subsection (a)(2) in an amount equal to 1.20 lbs/mmBtu multiplied by 50 percent of the difference, on a Btu basis, between the unit's baseline and the unit's fuel consumption at a 60 percent capacity factor.

"(3) After January 1, 2000, it shall be unlawful for any existing utility unit with an actual 1985 emissions rate equal to or greater than 1.20 lbs/mmBtu whose annual average fuel consumption during 1985, 1986, and 1987 on a Btu basis exceeded 90 percent in the form of lignite coal which is located in a State in which, as of July 1, 1989, no county or portion of a county was designated nonattainment under section 107 of this Act for any pollutant subject to the requirements of section 109 of this Act to exceed an annual sulfur dioxide tonnage limitation equal to the product of the unit's baseline multiplied by the lesser of the unit's actual 1985 emissions rate or its allowable 1985 emissions rate, divided by 2,000, unless the owner or operator of such unit holds allowances to emit not less than the unit's total annual emissions.

"(4) After January 1, 2000, the Administrator shall allocate annually for each unit, subject to the emissions limitation requirements of paragraph (1), which is located in a State with an installed electrical generating capacity of more than 30,000,000 kw in 1988 and for which was issued a prohibition order or a proposed prohibition order (from burning oil), which unit subsequently converted to coal between January 1, 1980 and December 31, 1985, allowances equal to the difference between (A) the product of the unit's annual fuel consumption, on a Btu basis, at a 65 percent capacity factor multiplied by the lesser of its actual or allowable emissions rate during the first full calendar year after conversion, divided by 2,000, and (B) the number of allowances allocated for the unit pursuant to paragraph (1): *Provided,* That the number of allowances allocated pursuant to this paragraph shall not exceed an annual total of five thousand. If necessary to meeting the restriction imposed in the

preceding sentence the Administrator shall reduce, pro rata, the annual allowances allocated for each unit under this paragraph.

"(c) COAL OR OIL-FIRED UNITS BELOW 75 MWE AND ABOVE 1.20 LBS/MMBTU.—(1) Except as otherwise provided in paragraph (3), after January 1, 2000, it shall be unlawful for a coal or oil-fired existing utility unit that serves a generator with nameplate capacity of less than 75 MWe and an actual 1985 emission rate equal to, or greater than, 1.20 lbs/mmBtu and which is a unit owned by a utility operating company whose aggregate nameplate fossil fuel steam-electric capacity is, as of December 31, 1989, equal to, or greater than, 250 MWe to exceed an annual sulfur dioxide emissions limitation equal to the product of the unit's baseline multiplied by an emission rate equal to 1.20 lbs/mmBtu, divided by 2,000, unless the owner or operator of such unit holds allowances to emit not less than the unit's total annual emissions.

"(2) After January 1, 2000, it shall be unlawful for a coal or oil-fired existing utility unit that serves a generator with nameplate capacity of less than 75 MWe and an actual 1985 emission rate equal to, or greater than, 1.20 lbs/mmBtu (excluding units subject to section 111 of the Act or to a federally enforceable emissions limitation for sulfur dioxide equivalent to an annual rate of less than 1.20 lbs/mmBtu) and which is a unit owned by a utility operating company whose aggregate nameplate fossil fuel steam-electric capacity is, as of December 31, 1989, less than 250 MWe, to exceed an annual sulfur dioxide tonnage emissions limitation equal to the product of the unit's baseline multiplied by the lesser of its actual 1985 emissions rate or its allowable 1985 emissions rate, divided by 2,000, unless the owner or operator of such unit holds allowances to emit not less than the unit's total annual emissions.

"(3) After January 1, 2000, it shall be unlawful for any existing utility unit with a nameplate capacity below 75 MWe and an actual 1985 emissions rate equal to, or greater than, 1.20 lbs/mmBtu which became operational on or before December 31, 1965, which is owned by a utility operating company with, as of December 31, 1989, a total fossil fuel steam-electric generating capacity greater than 250 MWe, and less than 450 MWe which serves fewer than 78,000 electrical customers as of the date of enactment of the Clean Air Act Amendments of 1990 to exceed an annual sulfur dioxide emissions tonnage limitation equal to the product of its baseline multiplied by the lesser of its actual or allowable 1985 emission rate, divided by 2,000, unless the owner or operator holds allowances to emit not less than the units total annual emissions. After January 1, 2010, it shall be unlawful for each unit subject to the emissions limitation requirements of this paragraph to exceed an annual emissions tonnage limitation equal to the product of its baseline multiplied by an emissions rate of 1.20 lbs/mmBtu, divided by 2,000, unless the owner or operator holds allowances to emit not less than the unit's total annual emissions.

"(4) In addition to allowances allocated pursuant to paragraph (1) and section 403(a)(1) as basic Phase II allowance allocations, beginning January 1, 2000, and for each calendar year thereafter until and including 2009, inclusive, the Administrator shall allocate annually for each unit subject to the emissions limitation requirements of paragraph (1) with an actual 1985 emissions rate equal to, or greater than, 1.20 lbs/mmBtu and less than 2.50 lbs/mmBtu and a baseline capacity factor of less than 60 percent, allowances from the reserve created pursuant to subsection (a)(2) in an amount equal

to 1.20 lbs/mmBtu multiplied by 50 percent of the difference, on a Btu basis, between the unit's baseline and the unit's fuel consumption at a 60 percent capacity factor.

"(5) After January 1, 2000, it shall be unlawful for any existing utility unit with a nameplate capacity below 75 MWe and an actual 1985 emissions rate equal to, or greater than, 1.20 lbs/mmBtu which is part of an electric utility system which, as of the date of the enactment of the Clean Air Act Amendments of 1990, (A) has at least 20 percent of its fossil-fuel capacity controlled by flue gas desulfurization devices, (B) has more than 10 percent of its fossil-fuel capacity consisting of coal-fired units of less than 75 MWe, and (C) has large units (greater than 400 MWe) all of which have difficult or very difficult FGD Retrofit Cost Factors (according to the Emissions and the FGD Retrofit Feasibility at the 200 Top Emitting Generating Stations, prepared for the United States Environmental Protection Agency on January 10, 1986) to exceed an annual sulfur dioxide emissions tonnage limitation equal to the product of its baseline multiplied by an emissions rate of 2.5 lbs/mmBtu, divided by 2,000, unless the owner or operator holds allowances to emit not less than the unit's total annual emissions. After January 1, 2010, it shall be unlawful for each unit subject to the emissions limitation requirements of this paragraph to exceed an annual emissions tonnage limitation equal to the product of its baseline multiplied by an emissions rate of 1.20 lbs/mmBtu, divided by 2,000, unless the owner or operator holds for use allowances to emit not less than the unit's total annual emissions.

"(d) COAL-FIRED UNITS BELOW 1.20 LBS/MMBTU.—(1) After January 1, 2000, it shall be unlawful for any existing coal-fired utility unit the lesser of whose actual or allowable 1985 sulfur dioxide emissions rate is less than 0.60 lbs/mmBtu to exceed an annual sulfur dioxide tonnage emission limitation equal to the product of the unit's baseline multiplied by (A) the lesser of 0.60 lbs/mmBtu or the unit's allowable 1985 emissions rate, and (B) a numerical factor of 120 percent, divided by 2,000, unless the owner or operator of such unit holds allowances to emit not less than the unit's total annual emissions.

"(2) After January 1, 2000, it shall be unlawful for any existing coal-fired utility unit the lesser of whose actual or allowable 1985 sulfur dioxide emissions rate is equal to, or greater than, 0.60 lbs/mmBtu and less than 1.20 lbs/mmBtu to exceed an annual sulfur dioxide tonnage emissions limitation equal to the product of the unit's baseline multiplied by (A) the lesser of its actual 1985 emissions rate or its allowable 1985 emissions rate, and (B) a numerical factor of 120 percent, divided by 2,000, unless the owner or operator of such unit holds allowances to emit not less than the unit's total annual emissions.

"(3)(A) In addition to allowances allocated pursuant to paragraph (1) and section 403(a)(1) as basic Phase II allowance allocations, at the election of the designated representative of the operating company, beginning January 1, 2000, and for each calendar year thereafter until and including 2009, the Administrator shall allocate annually for each unit subject to the emissions limitation requirements of paragraph (1) allowances from the reserve created pursuant to subsection (a)(2) in an amount equal to the amount by which (i) the product of the lesser of 0.60 lbs/mmBtu or the unit's allowable 1985 emissions rate multiplied by the unit's baseline adjusted to reflect operation at a 60 percent capacity factor, divided by 2,000,

exceeds (ii) the number of allowances allocated for the unit pursuant to paragraph (1) and section 403(a)(1) as basic Phase II allowance allocations.

"(B) In addition to allowances allocated pursuant to paragraph (2) and section 403(a)(1) as basic Phase II allowance allocations, at the election of the designated representative of the operating company, beginning January 1, 2000, and for each calendar year thereafter until and including 2009, the Administrator shall allocate annually for each unit subject to the emissions limitation requirements of paragraph (2) allowances from the reserve created pursuant to subsection (a)(2) in an amount equal to the amount by which (i) the product of the lesser of the unit's actual 1985 emissions rate or its allowable 1985 emissions rate multiplied by the unit's baseline adjusted to reflect operation at a 60 percent capacity factor, divided by 2,000, exceeds (ii) the number of allowances allocated for the unit pursuant to paragraph (2) and section 403(a)(1) as basic Phase II allowance allocations.

"(C) An operating company with units subject to the emissions limitation requirements of this subsection may elect the allocation of allowances as provided under subparagraphs (A) and (B). Such election shall apply to the annual allowance allocation for each and every unit in the operating company subject to the emissions limitation requirements of this subsection. The Administrator shall allocate allowances pursuant to subparagraphs (A) and (B) only in accordance with this subparagraph.

"(4) Notwithstanding any other provision of this section, at the election of the owner or operator, after January 1, 2000, the Administrator shall allocate in lieu of allocation, pursuant to paragraph (1), (2), (3), (5), or (6), allowances for a unit subject to the emissions limitation requirements of this subsection which commenced commercial operation on or after January 1, 1981 and before December 31, 1985, which was subject to, and in compliance with, section 111 of the Act in an amount equal to the unit's annual fuel consumption, on a Btu basis, at a 65 percent capacity factor multiplied by the unit's allowable 1985 emissions rate, divided by 2,000.

"(5) For the purposes of this section, in the case of an oil- and gas-fired unit which has been awarded a clean coal technology demonstration grant as of January 1, 1991, by the United States Department of Energy, beginning January 1, 2000, the Administrator shall allocate for the unit allowances in an amount equal to the unit's baseline multiplied by 1.20 lbs/mmBtu, divided by 2,000.

"(e) OIL AND GAS-FIRED UNITS EQUAL TO OR GREATER THAN 0.60 LBS/MMBTU AND LESS THAN 1.20 LBS/MMBTU.—After January 1, 2000, it shall be unlawful for any existing oil and gas-fired utility unit the lesser of whose actual or allowable 1985 sulfur dioxide emission rate is equal to, or greater than, 0.60 lbs/mmBtu, but less than 1.20 lbs/mmBtu to exceed an annual sulfur dioxide tonnage limitation equal to the product of the unit's baseline multiplied by (A) the lesser of the unit's allowable 1985 emissions rate or its actual 1985 emissions rate and (B) a numerical factor of 120 percent divided by 2,000, unless the owner or operator of such unit holds allowances to emit not less than the unit's total annual emissions.

"(f) OIL AND GAS-FIRED UNITS LESS THAN 0.60 LBS/MMBTU.—(1) After January 1, 2000, it shall be unlawful for any oil and gas-fired existing utility unit the lesser of whose actual or allowable 1985 emission rate is less than 0.60 lbs/mmBtu and whose average

annual fuel consumption during the period 1980 through 1989 on a Btu basis was 90 percent or less in the form of natural gas to exceed an annual sulfur dioxide tonnage emissions limitation equal to the product of the unit's baseline multiplied by (A) the lesser of 0.60 lbs/mmBtu or the unit's allowable 1985 emissions, and (B) a numerical factor of 120 percent, divided by 2,000, unless the owner or operator of such unit holds allowances to emit not less than the unit's total annual emissions.

"(2) In addition to allowances allocated pursuant to paragraph (1) as basic Phase II allowance allocations and section 403(a)(1), beginning January 1, 2000, the Administrator shall, in the case of any unit operated by a utility that furnishes electricity, electric energy, steam, and natural gas within an area consisting of a city and 1 contiguous county, and in the case of any unit owned by a State authority, the output of which unit is furnished within that same area consisting of a city and 1 contiguous county, the Administrator shall allocate for each unit in the utility its pro rata share of 7,000 allowances and for each unit in the State authority its pro rata share of 2,000 allowances.

"(g) UNITS THAT COMMENCE OPERATION BETWEEN 1986 AND DECEMBER 31, 1995.—(1) After January 1, 2000, it shall be unlawful for any utility unit that has commenced commercial operation on or after January 1, 1986, but not later than September 30, 1990 to exceed an annual tonnage emission limitation equal to the product of the unit's annual fuel consumption, on a Btu basis, at a 65 percent capacity factor multiplied by the unit's allowable 1985 sulfur dioxide emission rate (converted, if necessary, to pounds per mmBtu), divided by 2,000 unless the owner or operator of such unit holds allowances to emit not less than the unit's total annual emissions.

"(2) After January 1, 2000, the Administrator shall allocate allowances pursuant to section 403 to each unit which is listed in table B of this paragraph in an annual amount equal to the amount specified in table B.

TABLE B

Unit	Allowances
Brandon Shores	8,907
Miller 4	9,197
TNP One 2	4,000
Zimmer 1	18,458
Spruce 1	7,647
Clover 1	2,796
Clover 2	2,796
Twin Oak 2	1,760
Twin Oak 1	9,158
Cross 1	6,401
Malakoff 1	1,759

Notwithstanding any other paragraph of this subsection, for units subject to this paragraph, the Administrator shall not allocate allowances pursuant to any other paragraph of this subsection, Provided that the owner or operator of a unit listed on Table B may elect an allocation of allowances under another paragraph of this subsection in lieu of an allocation under this paragraph.

"(3) Beginning January 1, 2000, the Administrator shall allocate to the owner or operator of any utility unit that commences commercial operation, or has commenced commercial operation, on or after October 1, 1990, but not later than December 31, 1992 allowances in an amount equal to the product of the unit's annual fuel consumption, on a Btu basis, at a 65 percent capacity factor

multiplied by the lesser of 0.30 lbs/mmBtu or the unit's allowable sulfur dioxide emission rate (converted, if necessary, to pounds per mmBtu), divided by 2,000.

"(4) Beginning January 1, 2000, the Administrator shall allocate to the owner or operator of any utility unit that has commenced construction before December 31, 1990 and that commences commercial operation between January 1, 1993 and December 31, 1995, allowances in an amount equal to the product of the unit's annual fuel consumption, on a Btu basis, at a 65 percent capacity factor multiplied by the lesser of 0.30 lbs/mmBtu or the unit's allowable sulfur dioxide emission rate (converted, if necessary, to pounds per mmBtu), divided by 2,000.

"(5) After January 1, 2000, it shall be unlawful for any existing utility unit that has completed conversion from predominantly gas fired existing operation to coal fired operation between January 1, 1985 and December 31, 1987, for which there has been allocated a proposed or final prohibition order pursuant to section 301(b) of the Powerplant and Industrial Fuel Use Act of 1978 (42 U.S.C. 8301 et seq, repealed 1987) to exceed an annual sulfur dioxide tonnage emissions limitation equal to the product of the unit's annual fuel consumption, on a Btu basis, at a 65 percent capacity factor multiplied by the lesser of 1.20 lbs/mmBtu or the unit's allowable 1987 sulfur dioxide emissions rate, divided by 2,000, unless the owner or operator of such unit has obtained allowances equal to its actual emissions.

"(6)(A) Unless the Administrator has approved a designation of such facility under section 410, the provisions of this title shall not apply to a 'qualifying small power production facility' or 'qualifying cogeneration facility' (within the meaning of section 3(17)(C) or 3(18)(B) of the Federal Power Act) or to a 'new independent power production facility' as defined in section 416 except that clause (iii) of such definition in section 416 shall not apply for purposes of this paragraph if, as of the date of enactment,

"(i) an applicable power sales agreement has been executed;

"(ii) the facility is the subject of a State regulatory authority order requiring an electric utility to enter into a power sales agreement with, purchase capacity from, or (for purposes of establishing terms and conditions of the electric utility's purchase of power) enter into arbitration concerning, the facility;

"(iii) an electric utility has issued a letter of intent or similar instrument committing to purchase power from the facility at a previously offered or lower price and a power sales agreement is executed within a reasonable period of time; or

"(iv) the facility has been selected as a winning bidder in a utility competitive bid solicitation.

"(h) OIL AND GAS-FIRED UNITS LESS THAN 10 PERCENT OIL CONSUMED.—(1) After January 1, 2000, it shall be unlawful for any oil- and gas-fired utility unit whose average annual fuel consumption during the period 1980 through 1989 on a Btu basis exceeded 90 percent in the form of natural gas to exceed an annual sulfur dioxide tonnage limitation equal to the product of the unit's baseline multiplied by the unit's actual 1985 emissions rate divided by 2,000 unless the owner or operator of such unit holds allowances to emit not less than the unit's total annual emissions.

"(2) In addition to allowances allocated pursuant to paragraph (1) and section 403(a)(1) as basic Phase II allowance allocations, begin-

ning January 1, 2000, and for each calendar year thereafter until and including 2009, the Administrator shall allocate annually for each unit subject to the emissions limitation requirements of paragraph (1) allowances from the reserve created pursuant to subsection (a)(2) in an amount equal to the unit's baseline multiplied by 0.050 lbs/mmBtu, divided by 2,000.

"(3) In addition to allowances allocated pursuant to paragraph (1) and section 403(a)(1), beginning January 1, 2010, the Administrator shall allocate annually for each unit subject to the emissions limitation requirements of paragraph (1) allowances in an amount equal to the unit's baseline multiplied by 0.050 lbs/mmBtu, divided by 2,000.

"(i) UNITS IN HIGH GROWTH STATES.—(1) In addition to allowances allocated pursuant to this section and section 403(a)(1) as basic Phase II allowance allocations, beginning January 1, 2000, the Administrator shall allocate annually allowances for each unit, subject to an emissions limitation requirement under this section, and located in a State that—

"(A) has experienced a growth in population in excess of 25 percent between 1980 and 1988 according to State Population and Household Estimates, With Age, Sex, and Components of Change: 1981–1988 allocated by the United States Department of Commerce, and

"(B) had an installed electrical generating capacity of more than 30,000,000 kw in 1988,

in an amount equal to the difference between (A) the number of allowances that would be allocated for the unit pursuant to the emissions limitation requirements of this section applicable to the unit adjusted to reflect the unit's annual average fuel consumption on a Btu basis of any three consecutive calendar years between 1980 and 1989 (inclusive) as elected by the owner or operator and (B) the number of allowances allocated for the unit pursuant to the emissions limitation requirements of this section: *Provided,* That the number of allowances allocated pursuant to this subsection shall not exceed an annual total of 40,000. If necessary to meeting the 40,000 allowance restriction imposed under this subsection the Administrator shall reduce, pro rata, the additional annual allowances allocated to each unit under this subsection.

"(2) Beginning January 1, 2000, in addition to allowances allocated pursuant to this section and section 403(a)(1) as basic Phase II allowance allocations, the Administrator shall allocate annually for each unit subject to the emissions limitation requirements of subsection (b)(1), (A) the lesser of whose actual or allowable 1980 emissions rate has declined by 50 percent or more as of the date of enactment of the Clean Air Act Amendments of 1990, (B) whose actual emissions rate is less than 1.2 lbs/mmBtu as of January 1, 2000, (C) which commenced operation after January 1, 1970, (D) which is owned by a utility company whose combined commercial and industrial kilowatt-hour sales have increased by more than 20 percent between calendar year 1980 and the date of enactment of the Clean Air Act Amendments of 1990, and (E) whose company-wide fossil-fuel sulfur dioxide emissions rate has declined 40 per centum or more from 1980 to 1988, allowances in an amount equal to the difference between (i) the number of allowances that would be allocated for the unit pursuant to the emissions limitation requirements of subsection (b)(1) adjusted to reflect the unit's annual average fuel consumption on a Btu basis for any three consecutive years between 1980 and 1989 (inclusive) as elected by the owner or

operator and (ii) the number of allowances allocated for the unit pursuant to the emissions limitation requirements of subsection (b)(1): *Provided,* That the number of allowances allocated pursuant to this paragraph shall not exceed an annual total of 5,000. If necessary to meeting the 5,000-allowance restriction imposed in the last clause of the preceding sentence the Administrator shall reduce, pro rata, the additional allowances allocated to each unit pursuant to this paragraph.

"(j) CERTAIN MUNICIPALLY OWNED POWER PLANTS.—Beginning January 1, 2000, in addition to allowances allocated pursuant to this section and section 403(a)(1) as basic Phase II allowance allocations, the Administrator shall allocate annually for each existing municipally owned oil and gas-fired utility unit with nameplate capacity equal to, or less than, 40 MWe, the lesser of whose actual or allowable 1985 sulfur dioxide emission rate is less than 1.20 lbs/mmBtu, allowances in an amount equal to the product of the unit's annual fuel consumption on a Btu basis at a 60 percent capacity factor multiplied by the lesser of its allowable 1985 emission rate or its actual 1985 emission rate, divided by 2,000.

"SEC. 406. ALLOWANCES FOR STATES WITH EMISSIONS RATES AT OR BELOW 0.80 LBS/MMBTU. 42 USC 7651e.

"(a) ELECTION OF GOVERNOR.—In addition to basic Phase II allowance allocations, upon the election of the Governor of any State, with a 1985 state-wide annual sulfur dioxide emissions rate equal to or less than, 0.80 lbs/mmBtu, averaged over all fossil fuel-fired utility steam generating units, beginning January 1, 2000, and for each calendar year thereafter until and including 2009, the Administrator shall allocate, in lieu of other Phase II bonus allowance allocations, allowances from the reserve created pursuant to section 405(a)(2) to all such units in the State in an amount equal to 125,000 multiplied by the unit's pro rata share of electricity generated in calendar year 1985 at fossil fuel-fired utility steam units in all States eligible for the election.

"(b) NOTIFICATION OF ADMINISTRATOR.—Pursuant to section 403(a)(1), each Governor of a State eligible to make an election under paragraph (a) shall notify the Administrator of such election. In the event that the Governor of any such State fails to notify the Administrator of the Governor's elections, the Administrator shall allocate allowances pursuant to section 405.

"(c) ALLOWANCES AFTER JANUARY 1, 2010.—After January 1, 2010, the Administrator shall allocate allowances to units subject to the provisions of this section pursuant to section 405.

"SEC. 407. NITROGEN OXIDES EMISSION REDUCTION PROGRAM. 42 USC 7651f.

"(a) APPLICABILITY.—On the date that a coal-fired utility unit becomes an affected unit pursuant to sections 404, 405, 409, or on the date a unit subject to the provisions of section 404(d) or 409(b), must meet the SO_2 reduction requirements, each such unit shall become an affected unit for purposes of this section and shall be subject to the emission limitations for nitrogen oxides set forth herein.

"(b) EMISSION LIMITATIONS.—(1) Not later than eighteen months after enactment of the Clean Air Act Amendments of 1990, the Administrator shall by regulation establish annual allowable emission limitations for nitrogen oxides for the types of utility boilers listed below, which limitations shall not exceed the rates listed below: *Provided,* That the Administrator may set a rate higher than Regulations.

that listed for any type of utility boiler if the Administrator finds that the maximum listed rate for that boiler type cannot be achieved using low NO_x burner technology. The maximum allowable emission rates are as follows:

"(A) for tangentially fired boilers, 0.45 lb/mmBtu;

"(B) for dry bottom wall-fired boilers (other than units applying cell burner technology), 0.50 lb/mmBtu.

After January 1, 1995, it shall be unlawful for any unit that is an affected unit on that date and is of the type listed in this paragraph to emit nitrogen oxides in excess of the emission rates set by the Administrator pursuant to this paragraph.

Regulations.

"(2) Not later than January 1, 1997, the Administrator shall, by regulation, establish allowable emission limitations on a lb/mmBtu, annual average basis, for nitrogen oxides for the following types of utility boilers:

"(A) wet bottom wall-fired boilers;

"(B) cyclones;

"(C) units applying cell burner technology;

"(D) all other types of utility boilers.

The Administrator shall base such rates on the degree of reduction achievable through the retrofit application of the best system of continuous emission reduction, taking into account available technology, costs and energy and environmental impacts; and which is comparable to the costs of nitrogen oxides controls set pursuant to subsection (b)(1). Not later than January 1, 1997, the Administrator may revise the applicable emission limitations for tangentially fired and dry bottom, wall-fired boilers (other than cell burners) to be more stringent if the Administrator determines that more effective low NO_x burner technology is available: *Provided,* That, no unit that is an affected unit pursuant to section 404 and that is subject to the requirements of subsection (b)(1), shall be subject to the revised emission limitations, if any.

"(c) REVISED PERFORMANCE STANDARDS.—(1) Not later than January 1, 1993, the Administrator shall propose revised standards of performance to section 111 for nitrogen oxides emissions from fossil-fuel fired steam generating units, including both electric utility and nonutility units. Not later than January 1, 1994, the Administrator shall promulgate such revised standards of performance. Such revised standards of performance shall reflect improvements in methods for the reduction of emissions of oxides of nitrogen.

"(d) ALTERNATIVE EMISSION LIMITATIONS.—The permitting authority shall, upon request of an owner or operator of a unit subject to this section, authorize an emission limitation less stringent than the applicable limitation established under subsection (b)(1) or (b)(2) upon a determination that—

"(1) a unit subject to subsection (b)(1) cannot meet the applicable limitation using low NO_x burner technology; or

"(2) a unit subject to subsection (b)(2) cannot meet the applicable rate using the technology on which the Administrator based the applicable emission limitation.

Regulations.

The permitting authority shall base such determination upon a showing satisfactory to the permitting authority, in accordance with regulations established by the Administrator not later than eighteen months after enactment of the Clean Air Act Amendments of 1990, that the owner or operator—

"(1) has properly installed appropriate control equipment designed to meet the applicable emission rate;

"(2) has properly operated such equipment for a period of fifteen months (or such other period of time as the Administrator determines through the regulations), and provides operating and monitoring data for such period demonstrating that the unit cannot meet the applicable emission rate; and

"(3) has specified an emission rate that such unit can meet on an annual average basis.

The permitting authority shall issue an operating permit for the unit in question, in accordance with section 408 and part B of title III—

"(i) that permits the unit during the demonstration period referred to in subparagraph (2) above, to emit at a rate in excess of the applicable emission rate;

"(ii) at the conclusion of the demonstration period to revise the operating permit to reflect the alternative emission rate demonstrated in paragraphs (2) and (3) above.

Units subject to subsection (b)(1) for which an alternative emission limitation is established shall not be required to install any additional control technology beyond low NO_x burners. Nothing in this section shall preclude an owner or operator from installing and operating an alternative NO_x control technology capable of achieving the applicable emission limitation. If the owner or operator of a unit subject to the emissions limitation requirements of subsection (b)(1) demonstrates to the satisfaction of the Administrator that the technology necessary to meet such requirements is not in adequate supply to enable its installation and operation at the unit, consistent with system reliability, by January 1, 1995, then the Administrator shall extend the deadline for compliance for the unit by a period of 15 months. Any owner or operator may petition the Administrator to make a determination under the previous sentence. The Administrator shall grant or deny such petition within 3 months of submittal.

"(e) EMISSIONS AVERAGING.—In lieu of complying with the applicable emission limitations under subsection (b) (1), (2), or (d), the owner or operator of two or more units subject to one or more of the applicable emission limitations set pursuant to these sections, may petition the permitting authority for alternative contemporaneous annual emission limitations for such units that ensure that (1) the actual annual emission rate in pounds of nitrogen oxides per million Btu averaged over the units in question is a rate that is less than or equal to (2) the Btu-weighted average annual emission rate for the same units if they had been operated, during the same period of time, in compliance with limitations set in accordance with the applicable emission rates set pursuant to subsections (b) (1) and (2).

"If the permitting authority determines, in accordance with regulations issued by the Administrator not later than eighteen months after enactment of the Clean Air Act Amendments of 1990; that the conditions in the paragraph above can be met, the permitting authority shall issue operating permits for such units, in accordance with section 408 and part B of title III, that allow alternative contemporaneous annual emission limitations. Such emission limitations shall only remain in effect while both units continue operation under the conditions specified in their respective operating permits.

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42 USC 7651g.

"SEC. 408. PERMITS AND COMPLIANCE PLANS.

"(a) PERMIT PROGRAM.—The provisions of this title shall be implemented, subject to section 403, by permits issued to units subject to this title (and enforced) in accordance with the provisions of title V, as modified by this title. Any such permit issued by the Administrator, or by a State with an approved permit program, shall prohibit—

"(1) annual emissions of sulfur dioxide in excess of the number of allowances to emit sulfur dioxide the owner or operator, or the designated representative of the owners or operators, of the unit hold for the unit,

"(2) exceedances of applicable emissions rates,

"(3) the use of any allowance prior to the year for which it was allocated, and

"(4) contravention of any other provision of the permit.

Permits issued to implement this title shall be issued for a period of 5 years, notwithstanding title V. No permit shall be issued that is inconsistent with the requirements of this title, and title V as applicable.

"(b) COMPLIANCE PLAN.—Each initial permit application shall be accompanied by a compliance plan for the source to comply with its requirements under this title. Where an affected source consists of more than one affected unit, such plan shall cover all such units, and for purposes of section 502(c), such source shall be considered a 'facility'. Nothing in this section regarding compliance plans or in title V shall be construed as affecting allowances. Except as provided under subsection (c)(1)(B), submission of a statement by the owner or operator, or the designated representative of the owners and operators, of a unit subject to the emissions limitation requirements of sections 404, 405, and 407, that the unit will meet the applicable emissions limitation requirements of such sections in a timely manner or that, in the case of the emissions limitation requirements of sections 404 and 405, the owners and operators will hold allowances to emit not less than the total annual emissions of the unit, shall be deemed to meet the proposed and approved compliance planning requirements of this section and title V, except that, for any unit that will meet the requirements of this title by means of an alternative method of compliance authorized under section 404 (b), (c), (d), or (f) section 407 (d) or (e), section 409 and section 410, the proposed and approved compliance plan, permit application and permit shall include, pursuant to regulations promulgated by the Administrator, for each alternative method of compliance a comprehensive description of the schedule and means by which the unit will rely on one or more alternative methods of compliance in the manner and time authorized under this title. Recordation by the Administrator of transfers of allowances shall amend automatically all applicable proposed or approved permit applications, compliance plans and permits. The Administrator may also require—

"(1) for a source, a demonstration of attainment of national ambient air quality standards, and

"(2) from the owner or operator of two or more affected sources, an integrated compliance plan providing an overall plan for achieving compliance at the affected sources.

"(c) FIRST PHASE PERMITS.—The Administrator shall issue permits to affected sources under sections 404 and 407.

"(1) PERMIT APPLICATION AND COMPLIANCE PLAN.—(A) Not later than 27 months after the date of the enactment of the Clean Air Act Amendments of 1990, the designated representative of the owners or operators, or the owner and operator, of each affected source under sections 404 and 407 shall submit a permit application and compliance plan for that source in accordance with regulations issued by the Administrator under paragraph (3). The permit application and the compliance plan shall be binding on the owner or operator or the designated representative of owners and operators for purposes of this title and section 402(a), and shall be enforceable in lieu of a permit until a permit is issued by the Administrator for the source.

"(B) In the case of a compliance plan for an affected source under sections 404 and 407 for which the owner or operator proposes to meet the requirements of that section by reducing utilization of the unit as compared with its baseline or by shutting down the unit, the owner or operator shall include in the proposed compliance plan a specification of the unit or units that will provide electrical generation to compensate for the reduced output at the affected source, or a demonstration that such reduced utilization will be accomplished through energy conservation or improved unit efficiency. The unit to be used for such compensating generation, which is not otherwise an affected unit under sections 404 and 407, shall be deemed an affected unit under section 404, subject to all of the requirements for such units under this title, except that allowances shall be allocated to such compensating unit in the amount of an annual limitation equal to the product of the unit's baseline multiplied by the lesser of the unit's actual 1985 emissions rate or its allowable 1985 emissions rate, divided by 2,000.

"(2) EPA ACTION ON COMPLIANCE PLANS.—The Administrator shall review each proposed compliance plan to determine whether it satisfies the requirements of this title, and shall approve or disapprove such plan within 6 months after receipt of a complete submission. If a plan is disapproved, it may be resubmitted for approval with such changes as the Administrator shall require consistent with the requirements of this title and within such period as the Administrator prescribes as part of such disapproval.

"(3) REGULATIONS; ISSUANCE OF PERMITS.—Not later than 18 months after the date of the enactment of the Clean Air Act Amendments of 1990, the Administrator shall promulgate regulations, in accordance with title V, to implement a Federal permit program to issue permits for affected sources under this title. Following promulgation, the Administrator shall issue a permit to implement the requirements of section 404 and the allowances provided under section 403 to the owner or operator of each affected source under section 404. Such a permit shall supersede any permit application and compliance plan submitted under paragraph (1).

"(4) FEES.—During the years 1995 through 1999 inclusive, no fee shall be required to be paid under section 502(b)(3) or under section 110(a)(2)(L) with respect to emissions from any unit which is an affected unit under section 404.

"(d) SECOND PHASE PERMITS.—(1) To provide for permits for (A) new electric utility steam generating units required under section 403(e) to have allowances, (B) affected units or sources under section

405, and (C) existing units subject to nitrogen oxide emission reductions under section 407, each State in which one or more such units or sources are located shall submit in accordance with title V, a permit program for approval as provided by that title. Upon approval of such program, for the units or sources subject to such approved program the Administrator shall suspend the issuance of permits as provided in title V.

"(2) The owner or operator or the designated representative of each affected source under section 405 shall submit a permit application and compliance plan for that source to the permitting authority, not later than January 1, 1996.

"(3) Not later than December 31, 1997, each State with an approved permit program shall issue permits to the owner or operator, or the designated representative of the owners and operators, of affected sources under section 405 that satisfy the requirements of title V and this title and that submitted to such State a permit application and compliance plan pursuant to paragraph (2). In the case of a State without an approved permit program by July 1, 1996, the Administrator shall, not later than January 1, 1998, issue a permit to the owner or operator or the designated representative of each such affected source. In the case of affected sources for which applications and plans are timely received under paragraph (2), the permit application and the compliance plan, including amendments thereto, shall be binding on the owner or operator or the designated representative of the owners or operators and shall be enforceable as a permit for purposes of this title and title V until a permit is issued by the permitting authority for the affected source. The provisions of section 558(c) of title V of the United States Code (relating to renewals) shall apply to permits issued by a permitting authority under this title and title V.

"(4) The permit issued in accordance with this subsection for an affected source shall provide that the affected units at the affected source may not emit an annual tonnage of sulfur dioxide in excess of the number of allowances to emit sulfur dioxide the owner or operator or designated representative hold for the unit.

"(e) NEW UNITS.—The owner or operator of each source that includes a new electric utility steam generating unit shall submit a permit application and compliance plan to the permitting authority not later than 24 months before the later of (1) January 1, 2000, or (2) the date on which the unit commences operation. The permitting authority shall issue a permit to the owner or operator, or the designated representative thereof, of the unit that satisfies the requirements of title V and this title.

"(f) UNITS SUBJECT TO CERTAIN OTHER LIMITS.—The owner or operator, or designated representative thereof, of any unit subject to an emission rate requirement under section 407 shall submit a permit application and compliance plan for such unit to the permitting authority, not later than January 1, 1998. The permitting authority shall issue a permit to the owner or operator that satisfies the requirements of title V and this title, including any appropriate monitoring and reporting requirements.

"(g) AMENDMENT OF APPLICATION AND COMPLIANCE PLAN.—At any time after the submission of an application and compliance plan under this section, the applicant may submit a revised application and compliance plan, in accordance with the requirements of this section. In considering any permit application and compliance plan under this title, the permitting authority shall ensure coordination

with the applicable electric ratemaking authority, in the case of regulated utilities, and with unregulated public utilities.

"(h) PROHIBITION.—(1) It shall be unlawful for an owner or operator, or designated representative, required to submit a permit application or compliance plan under this title to fail to submit such application or plan in accordance with the deadlines specified in this section or to otherwise fail to comply with regulations implementing this section.

"(2) It shall be unlawful for any person to operate any source subject to this title except in compliance with the terms and requirements of a permit application and compliance plan (including amendments thereto) or permit issued by the Administrator or a State with an approved permit program. For purposes of this subsection, compliance, as provided in section 504(f), with a permit issued under title V which complies with this title for sources subject to this title shall be deemed compliance with this subsection as well as section 502(a).

"(3) In order to ensure reliability of electric power, nothing in this title or title V shall be construed as requiring termination of operations of an electric utility steam generating unit for failure to have an approved permit or compliance plan, except that any such unit may be subject to the applicable enforcement provisions of section 113.

"(i) MULTIPLE OWNERS.—No permit shall be issued under this section to an affected unit until the designated representative of the owners or operators has filed a certificate of representation with regard to matters under this title, including the holding and distribution of allowances and the proceeds of transactions involving allowances. Where there are multiple holders of a legal or equitable title to, or a leasehold interest in, such a unit, or where a utility or industrial customer purchases power from an affected unit (or units) under life-of-the-unit, firm power contractual arrangements, the certificate shall state (1) that allowances and the proceeds of transactions involving allowances will be deemed to be held or distributed in proportion to each holder's legal, equitable, leasehold, or contractual reservation or entitlement, or (2) if such multiple holders have expressly provided for a different distribution of allowances by contract, that allowances and the proceeds of transactions involving allowances will be deemed to be held or distributed in accordance with the contract. A passive lessor, or a person who has an equitable interest through such lessor, whose rental payments are not based, either directly or indirectly, upon the revenues or income from the affected unit shall not be deemed to be a holder of a legal, equitable, leasehold, or contractual interest for the purpose of holding or distributing allowances as provided in this subsection, during either the term of such leasehold or thereafter, unless expressly provided for in the leasehold agreement. Except as otherwise provided in this subsection, where all legal or equitable title to or interest in an affected unit is held by a single person, the certification shall state that all allowances received by the unit are deemed to be held for that person.

"SEC. 409. REPOWERED SOURCES. 42 USC 7651h.

"(a) AVAILABILITY.—Not later than December 31, 1997, the owner or operator of an existing unit subject to the emissions limitation requirements of section 405 (b) and (c) may demonstrate to the permitting authority that one or more units will be repowered with

a qualifying clean coal technology to comply with the requirements under section 405. The owner or operator shall, as part of any such demonstration, provide, not later than January 1, 2000, satisfactory documentation of a preliminary design and engineering effort for such repowering and an executed and binding contract for the majority of the equipment to repower such unit and such other information as the Administrator may require by regulation. The replacement of an existing utility unit with a new utility unit using a repowering technology referred to in section 402(2) which is located at a different site, shall be treated as repowering of the existing unit for purposes of this title, if—

"(1) the replacement unit is designated by the owner or operator to replace such existing unit, and

"(2) the existing unit is retired from service on or before the date on which the designated replacement unit enters commercial operation.

"(b) EXTENSION.—(1) An owner or operator satisfying the requirements of subsection (a) shall be granted an extension of the emission limitation requirement compliance date for that unit from January 1, 2000, to December 31, 2003. The extension shall be specified in the permit issued to the source under section 408, together with any compliance schedule and other requirements necessary to meet second phase requirements by the extended date. Any unit that is granted an extension under this section shall not be eligible for a waiver under section 111(j) of this Act, and shall continue to be subject to requirements under this title as if it were a unit subject to section 405.

"(2) If (A) the owner or operator of an existing unit has been granted an extension under paragraph (1) in order to repower such unit with a clean coal unit, and (B) such owner or operator demonstrates to the satisfaction of the Administrator that the repowering technology to be utilized by such unit has been properly constructed and tested on such unit, but nevertheless has been unable to achieve the emission reduction limitations and is economically or technologically infeasible, such existing unit may be retrofitted or repowered with equipment or facilities utilizing another clean coal technology or other available control technology.

"(c) ALLOWANCES.—(1) For the period of the extension under this section, the Administrator shall allocate to the owner or operator of the affected unit, annual allowances for sulfur dioxide equal to the affected unit's baseline multiplied by the lesser of the unit's federally approved State Implementation Plan emissions limitation or its actual emission rate for 1995 in lieu of any other allocation. Such allowances may not be transferred or used by any other source to meet emission requirements under this title. The source owner or operator shall notify the Administrator sixty days in advance of the date on which the affected unit for which the extension has been granted is to be removed from operation to install the repowering technology.

"(2) Effective on that date, the unit shall be subject to the requirements of section 405. Allowances for the year in which the unit is removed from operation to install the repowering technology shall be calculated as the product of the unit's baseline multiplied by 1.20 lbs/mmBtu, divided by 2,000, and prorated accordingly, and are transferable.

"(3) Allowances for such existing utility units for calendar years after the year the repowering is complete shall be calculated as

the product of the existing unit's baseline multiplied by 1.20 lbs/mmBtu, divided by 2,000.

"(4) Notwithstanding the provisions of section 403 (a) and (e), allowances shall be allocated under this section for a designated replacement unit which replaces an existing unit (as provided in the last sentence of subsection (a)) in lieu of any further allocations of allowances for the existing unit.

"(5) For the purpose of meeting the aggregate emissions limitation requirement set forth in section 403(a)(1), the units with an extension under this subsection shall be treated in each calendar year during the extension period as holding allowances allocated under paragraph (3).

"(d) CONTROL REQUIREMENTS.—Any unit qualifying for an extension under this section that does not increase actual hourly emissions for any pollutant regulated under the Act shall not be subject to any standard of performance under section 111 of this Act. Notwithstanding the provisions of this subsection, no new unit (1) designated as a replacement for an existing unit, (2) qualifying for the extension under subsection (b), and (3) located at a different site than the existing unit shall receive an exemption from the requirements imposed under section 111.

"(e) EXPEDITED PERMITTING.—State permitting authorities and, where applicable, the Administrator, are encouraged to give expedited consideration to permit applications under parts C and D of title I of this Act for any source qualifying for an extension under this section.

"(f) PROHIBITION.—It shall be unlawful for the owner or operator of a repowered source to fail to comply with the requirement of this section, or any regulations of permit requirements to implement this section, including the prohibition against emitting sulfur dioxide in excess of allowances held.

"SEC. 410. ELECTION FOR ADDITIONAL SOURCES. 42 USC 7651i.

(a) APPLICABILITY.—The owner or operator of any unit that is not, nor will become, an affected unit under section 403(e), 404, or 405, or that is a process source under subsection (d), that emits sulfur dioxide, may elect to designate that unit or source to become an affected unit and to receive allowances under this title. An election shall be submitted to the Administrator for approval, along with a permit application and proposed compliance plan in accordance with section 408. The Administrator shall approve a designation that meets the requirements of this section, and such designated unit, or source, shall be allocated allowances, and be an affected unit for purposes of this title.

"(b) ESTABLISHMENT OF BASELINE.—The baseline for a unit designated under this section shall be established by the Administrator by regulation, based on fuel consumption and operating data for the unit for calendar years 1985, 1986, and 1987, or if such data is not available, the Administrator may prescribe a baseline based on alternative representative data. Regulations.

"(c) EMISSION LIMITATIONS.—Annual emissions limitations for sulfur dioxide shall be equal to the product of the baseline multiplied by the lesser of the unit's 1985 actual or allowable emission rate in lbs/mmBtu, or, if the unit did not operate in 1985, by the lesser of the unit's actual or allowable emission rate for a calendar year after 1985 (as determined by the Administrator), divided by 2,000.

"(d) PROCESS SOURCES.—Not later than 18 months after enactment of the Clean Air Act Amendments of 1990, the Administrator shall establish a program under which the owner or operator of a process source that emits sulfur dioxide may elect to designate that source as an affected unit for the purpose of receiving allowances under this title. The Administrator shall, by regulation, define the sources that may be designated; specify the emissions limitation; specify the operating, emission baseline, and other data requirements; prescribe CEMS or other monitoring requirements; and promulgate permit, reporting, and any other requirements necessary to implement such a program.

Regulations.

"(e) ALLOWANCES AND PERMITS.—The Administrator shall issue allowances to an affected unit under this section in an amount equal to the emissions limitation calculated under subsection (c) or (d), in accordance with section 403. Such allowance may be used in accordance with, and shall be subject to, the provisions of section 403. Affected sources under this section shall be subject to the requirements of sections 403, 408, 411, 412, 413, and 414.

"(f) LIMITATION.—Any unit designated under this section shall not transfer or bank allowances produced as a result of reduced utilization or shutdown, except that, such allowances may be transferred or carried forward for use in subsequent years to the extent that the reduced utilization or shutdown results from the replacement of thermal energy from the unit designated under this section, with thermal energy generated by any other unit or units subject to the requirements of this title, and the designated unit's allowances are transferred or carried forward for use at such other replacement unit or units. In no case may the Administrator allocate to a source designated under this section allowances in an amount greater than the emissions resulting from operation of the source in full compliance with the requirements of this Act. No such allowances shall authorize operation of a unit in violation of any other requirements of this Act.

Regulations.

"(g) IMPLEMENTATION.—The Administrator shall issue regulations to implement this section not later than eighteen months after enactment of the Clean Air Act Amendments of 1990.

"(h) SMALL DIESEL REFINERIES.—The Administrator shall issue allowances to owners or operators of small diesel refineries who produce diesel fuel after October 1, 1993, meeting the requirements of subsection 211(i) of this Act.

"(1) ALLOWANCE PERIOD.—Allowances may be allocated under this subsection only for the period from October 1, 1993, through December 31, 1999.

"(2) ALLOWANCE DETERMINATION.—The number of allowances allocated pursuant to this paragraph shall equal the annual number of pounds of sulfur dioxide reduction attributable to desulfurization by a small refinery divided by 2,000. For the purposes of this calculation, the concentration of sulfur removed from diesel fuel shall be the difference between 0.274 percent (by weight) and 0.050 percent (by weight).

"(3) REFINERY ELIGIBILITY.—As used in this subsection, the term 'small refinery' shall mean a refinery or portion of a refinery—

"(A) which, as of the date of enactment of the Clean Air Act Amendments of 1990, has bona fide crude oil throughput of less than 18,250,000 barrels per year, as reported to the Department of Energy, and

"(B) which, as of the date of enactment of the Clean Air Act Amendments of 1990, is owned or controlled by a refiner with a total combined bona fide crude oil throughput of less than 50,187,500 barrels per year, as reported to the Department of Energy.

"(4) LIMITATION PER REFINERY.—The maximum number of allowances that can be annually allocated to a small refinery pursuant to this subsection is one thousand and five hundred.

"(5) LIMITATION ON TOTAL.—In any given year, the total number of allowances allocated pursuant to this subsection shall not exceed thirty-five thousand.

"(6) REQUIRED CERTIFICATION.—The Administrator shall not allocate any allowances pursuant to this subsection unless the owner or operator of a small diesel refinery shall have certified, at a time and in a manner prescribed by the Administrator, that all motor diesel fuel produced by the refinery for which allowances are claimed, including motor diesel fuel for off-highway use, shall have met the requirements of subsection 211(i) of this Act.

"SEC. 411. EXCESS EMISSIONS PENALTY. 42 USC 7651j.

"(a) EXCESS EMISSIONS PENALTY.—The owner or operator of any unit or process source subject to the requirements of sections 403, 404, 405, 406, 407 or 409, or designated under section 410, that emits sulfur dioxide or nitrogen oxides for any calendar year in excess of the unit's emissions limitation requirement or, in the case of sulfur dioxide, of the allowances the owner or operator holds for use for the unit for that calendar year shall be liable for the payment of an excess emissions penalty, except where such emissions were authorized pursuant to section 110(f). That penalty shall be calculated on the basis of the number of tons emitted in excess of the unit's emissions limitation requirement or, in the case of sulfur dioxide, of the allowances the operator holds for use for the unit for that year, multiplied by $2,000. Any such penalty shall be due and payable without demand to the Administrator as provided in regulations to be issued by the Administrator by no later than eighteen months after the date of enactment of the Clean Air Act Amendments of 1990. Any such payment shall be deposited in the United States Treasury pursuant to the Miscellaneous Receipts Act. Any penalty due and payable under this section shall not diminish the liability of the unit's owner or operator for any fine, penalty or assessment against the unit for the same violation under any other section of this Act. Regulations.

"(b) EXCESS EMISSIONS OFFSET.—The owner or operator of any affected source that emits sulfur dioxide during any calendar year in excess of the unit's emissions limitation requirement or of the allowances held for the unit for the calendar year, shall be liable to offset the excess emissions by an equal tonnage amount in the following calendar year, or such longer period as the Administrator may prescribe. The owner or operator of the source shall, within sixty days after the end of the year in which the excess emissions occured, submit to the Administrator, and to the State in which the source is located, a proposed plan to achieve the required offsets. Upon approval of the proposed plan by the Administrator, as submitted, modified or conditioned, the plan shall be deemed at a condition of the operating permit for the unit without further review or revision of the permit. The Administrator shall also

deduct allowances equal to the excess tonnage from those allocated for the source for the calendar year, or succeeding years during which offsets are required, following the year in which the excess emissions occurred.

Regulations.

"(c) PENALTY ADJUSTMENT.—The Administrator shall, by regulation, adjust the penalty specified in subsection (a) for inflation, based on the Consumer Price Index, on the date of enactment and annually thereafter.

"(d) PROHIBITION.—It shall be unlawful for the owner or operator of any source liable for a penalty and offset under this section to fail (1) to pay the penalty under subsection (a), (2) to provide, and thereafter comply with, a compliance plan as required by subsection (b), or (3) to offset excess emissions as required by subsection (b).

"(e) SAVINGS PROVISION.—Nothing in this title shall limit or otherwise affect the application of section 113, 114, 120, or 304 except as otherwise explicitly provided in this title.

42 USC 7651k.

"SEC. 412. MONITORING, REPORTING, AND RECORDKEEPING REQUIREMENTS.

"(a) APPLICABILITY.—The owner and operator of any source subject to this title shall be required to install and operate CEMS on each affected unit at the source, and to quality assure the data for sulfur dioxide, nitrogen oxides, opacity and volumetric flow at each such unit. The Administrator shall, by regulations issued not later than eighteen months after enactment of the Clean Air Act Amendments of 1990, specify the requirements for CEMS, for any alternative monitoring system that is demonstrated as providing information with the same precision, reliability, accessibility, and timeliness as that provided by CEMS, and for recordkeeping and reporting of information from such systems. Such regulations may include limitations or the use of alternative compliance methods by units equipped with an alternative monitoring system as may be necessary to preserve the orderly functioning of the allowance system, and which will ensure the emissions reductions contemplated by this title. Where 2 or more units utilize a single stack, a separate CEMS shall not be required for each unit, and for such units the regulations shall require that the owner or operator collect sufficient information to permit reliable compliance determinations for each such unit.

Regulations.

"(b) FIRST PHASE REQUIREMENTS.—Not later than thirty-six months after enactment of the Clean Air Act Amendments of 1990, the owner or operator of each affected unit under section 404, including, but not limited to, units that become affected units pursuant to subsections (b) and (c) and eligible units under subsection (d), shall install and operate CEMS, quality assure the data, and keep records and reports in accordance with the regulations issued under subsection (a).

"(c) SECOND PHASE REQUIREMENTS.—Not later than January 1, 1995, the owner or operator of each affected unit that has not previously met the requirements of subsections (a) and (b) shall install and operate CEMS, quality assure the data, and keep records and reports in accordance with the regulations issued under subsection (a). Upon commencement of commercial operation of each new utility unit, the unit shall comply with the requirements of subsection (a).

Regulations.

"(d) UNAVAILABILITY OF EMISSIONS DATA.—If CEMS data or data from an alternative monitoring system approved by the Adminis-

trator under subsection (a) is not available for any affected unit during any period of a calendar year in which such data is required under this title, and the owner or operator cannot provide information, satisfactory to the Administrator, on emissions during that period, the Administrator shall deem the unit to be operating in an uncontrolled manner during the entire period for which the data was not available and shall, by regulation which shall be issued not later than eighteen months after enactment of the Clean Air Act Amendments of 1990, prescribe means to calculate emissions for that period. The owner or operator shall be liable for excess emissions fees and offsets under section 411 in accordance with such regulations. Any fee due and payable under this subsection shall not diminish the liability of the unit's owner or operator for any fine, penalty, fee or assessment against the unit for the same violation under any other section of this Act.

"(e) PROHIBITION.—It shall be unlawful for the owner or operator of any source subject to this title to operate a source without complying with the requirements of this section, and any regulations implementing this section.

"SEC. 413. GENERAL COMPLIANCE WITH OTHER PROVISIONS. 42 USC 7651*l*.

"Except as expressly provided, compliance with the requirements of this title shall not exempt or exclude the owner or operator of any source subject to this title from compliance with any other applicable requirements of this Act.

"SEC. 414. ENFORCEMENT. 42 USC 7651m.

"It shall be unlawful for any person subject to this title to violate any prohibition of, requirement of, or regulation promulgated pursuant to this title shall be a violation of this Act. In addition to the other requirements and prohibitions provided for in this title, the operation of any affected unit to emit sulfur dioxide in excess of allowances held for such unit shall be deemed a violation, with each ton emitted in excess of allowances held constituting a separate violation.

"SEC. 415. CLEAN COAL TECHNOLOGY REGULATORY INCENTIVES. 42 USC 7651n.

"(a) DEFINITION.—For purposes of this section, 'clean coal technology' means any technology, including technologies applied at the precombustion, combustion, or post combustion stage, at a new or existing facility which will achieve significant reductions in air emissions of sulfur dioxide or oxides of nitrogen associated with the utilization of coal in the generation of electricity, process steam, or industrial products, which is not in widespread use as of the date of enactment of this title.

"(b) REVISED REGULATIONS FOR CLEAN COAL TECHNOLOGY DEMONSTRATIONS.—

"(1) APPLICABILITY.—This subsection applies to physical or operational changes to existing facilities for the sole purpose of installation, operation, cessation, or removal of a temporary or permanent clean coal technology demonstration project. For the purposes of this section, a clean coal technology demonstration project shall mean a project using funds appropriated under the heading 'Department of Energy—Clean Coal Technology', up to a total amount of $2,500,000,000 for commercial demonstration of clean coal technology, or similar projects funded through appropriations for the Environmental Protection Agency. The

Federal contribution for a qualifying project shall be at least 20 percent of the total cost of the demonstration project.

"(2) TEMPORARY PROJECTS.—Installation, operation, cessation, or removal of a temporary clean coal technology demonstration project that is operated for a period of five years or less, and which complies with the State implementation plans for the State in which the project is located and other requirements necessary to attain and maintain the national ambient air quality standards during and after the project is terminated, shall not subject such facility to the requirements of section 111 or part C or D of title I.

"(3) PERMANENT PROJECTS.—For permanent clean coal technology demonstration projects that constitute repowering as defined in section 402(l) of this title, any qualifying project shall not be subject to standards of performance under section 111 or to the review and permitting requirements of part C for any pollutant the potential emissions of which will not increase as a result of the demonstration project.

"(4) EPA REGULATIONS.—Not later than 12 months after the date of enactment, the Administrator shall promulgate regulations or interpretive rulings to revise requirements under section 111 and parts C and D, as appropriate, to facilitate projects consistent in this subsection. With respect to parts C and D, such regulations or rulings shall apply to all areas in which EPA is the permitting authority. In those instances in which the State is the permitting authority under part C or D, any State may adopt and submit to the Administrator for approval revisions to its implementation plan to apply the regulations or rulings promulgated under this subsection.

"(c) EXEMPTION FOR REACTIVATION OF VERY CLEAN UNITS.—Physical changes or changes in the method of operation associated with the commencement of commercial operations by a coal-fired utility unit after a period of discontinued operation shall not subject the unit to the requirements of section 111 or part C of the Act where the unit (1) has not been in operation for the two-year period prior to the enactment of the Clean Air Act Amendments of 1990, and the emissions from such unit continue to be carried in the permitting authority's emissions inventory at the time of enactment, (2) was equipped prior to shut-down with a continuous system of emissions control that achieves a removal efficiency for sulfur dioxide of no less than 85 percent and a removal efficiency for particulates of no less than 98 percent, (3) is equipped with low-NO_x burners prior to the time of commencement, and (4) is otherwise in compliance with the requirements of this Act.

42 USC 7651o.

"SEC. 416. CONTINGENCY GUARANTEE; AUCTIONS, RESERVE.

"(a) DEFINITIONS.—For purposes of this section—

"(1) The term 'independent power producer' means any person who owns or operates, in whole or in part, one or more new independent power production facilities.

"(2) The term 'new independent power production facility' means a facility that—

"(A) is used for the generation of electric energy, 80 percent or more of which is sold at wholesale;

"(B) is nonrecourse project-financed (as such term is defined by the Secretary of Energy within 3 months of the

date of the enactment of the Clean Air Act Amendments of 1990);

"(C) does not generate electric energy sold to any affiliate (as defined in section 2(a)(11) of the Public Utility Holding Company Act of 1935) of the facility's owner or operator unless the owner or operator of the facility demonstrates that it cannot obtain allowances from the affiliate; and

"(D) is a new unit required to hold allowances under this title.

"(3) The term 'required allowances' means the allowances required to operate such unit for so much of the unit's useful life as occurs after January 1, 2000.

"(b) SPECIAL RESERVE OF ALLOWANCES.—Within 36 months after the date of the enactment of the Clean Air Act Amendments of 1990, the Administrator shall promulgate regulations establishing a Special Allowance Reserve containing allowances to be sold under this section. For purposes of establishing the Special Allowance Reserve, the Administrator shall withhold— Regulations.

"(1) 2.8 percent of the allocation of allowances for each year from 1995 through 1999 inclusive; and

"(2) 2.8 percent of the basic Phase II allowance allocation of allowances for each year beginning in the year 2000

which would (but for this subsection) be issued for each affected unit at an affected source. The Administrator shall record such withholding for purposes of transferring the proceeds of the allowance sales under this subsection. The allowances so withheld shall be deposited in the Reserve under this section. Records.

"(c) DIRECT SALE AT $1,500 PER TON.—

"(1) SUBACCOUNT FOR DIRECT SALES.—In accordance with regulations under this section, the Administrator shall establish a Direct Sale Subaccount in the Special Allowance Reserve established under this section. The Direct Sale Subaccount shall contain allowances in the amount of 50,000 tons per year for each year beginning in the year 2000.

"(2) SALES.—Allowances in the subaccount shall be offered for direct sale to any person at the times and in the amounts specified in table 1 at a price of $1,500 per allowance, adjusted by the Consumer Price Index in the same manner as provided in paragraph (3). Requests to purchase allowances from the Direct Sale Subaccount established under paragraph (1) shall be approved in the order of receipt until no allowances remain in such subaccount, except that an opportunity to purchase such allowances shall be provided to the independent power producers referred to in this subsection before such allowances are offered to any other person. Each applicant ~~shall be~~ required to pay 50 percent of the total purchase price of the allowances within 6 months after the approval of the request to purchase. The remainder shall be paid on or before the transfer of the allowances.

"TABLE 1—NUMBER OF ALLOWANCES AVAILABLE FOR SALE AT $1,500 PER TON

Year of Sale	Spot Sale (same year)	Advance Sale
1993–1999		25,000
2000 and after	25,000	25,000

Allowances sold in the spot sale in any year are allowances which may only be used in that year (unless banked for use in a later year). Allowances sold in the advance sale in any year are allowances which may only be used in the 7th year after the year in which they are first offered for sale (unless banked for use in a later year).

"(3) ENTITLEMENT TO WRITTEN GUARANTEE.—Any independent power producer that submits an application to the Administrator establishing that such independent power producer—

"(A) proposes to construct a new independent power production facility for which allowances are required under this title;

"(B) will apply for financing to construct such facility after January 1, 1990, and before the date of the first auction under this section;

"(C) has submitted to each owner or operator of an affected unit listed in table A (in section 404) a written offer to purchase the required allowances for $750 per ton; and

"(D) has not received (within 180 days after submitting offers to purchase under subparagraph (C)) an acceptance of the offer to purchase the required allowances,

shall, within 30 days after submission of such application, be entitled to receive the Administrator's written guarantee (subject to the eligibility requirements set forth in paragraph (4)) that such required allowances will be made available for purchase from the Direct Sale Subaccount established under this subsection and at a guaranteed price. The guaranteed price at which such allowances shall be made available for purchase shall be $1,500 per ton, adjusted by the percentage, if any, by which the Consumer Price Index (as determined under section 502(b)(3)(B)(v)) for the year in which the allowance is purchased exceeds the Consumer Price Index for the calendar year 1990.

"(4) ELIGIBILITY REQUIREMENTS.—The guarantee issued by the Administrator under paragraph (3) shall be subject to a demonstration by the independent power producer, satisfactory to the Administrator, that—

"(A) the independent power producer has—

"(i) made good faith efforts to purchase the required allowances from the owners or operators of affected units to which allowances will be allocated, including efforts to purchase at annual auctions under this section, and from industrial sources that have elected to become affected units pursuant to section 410; and

"(ii) such bids and efforts were unsuccessful in obtaining the required allowances; and

"(B) the independent power producer will continue to make good faith efforts to purchase the required allowances from the owners or operators of affected units and from industrial sources.

"(5) ISSUANCE OF GUARANTEED ALLOWANCES FROM DIRECT SALE SUBACCOUNT UNDER THIS SECTION.—From the allowances avail-

able in the Direct Sale Subaccount established under this subsection, upon payment of the guaranteed price, the Administrator shall issue to any person exercising the right to purchase allowances pursuant to a guarantee under this subsection the allowances covered by such guarantee. Persons to which guarantees under this subsection have been issued shall have the opportunity to purchase allowances pursuant to such guarantee from such subaccount before the allowances in such reserve are offered for sale to any other person.

"(6) PROCEEDS.—Notwithstanding section 3302 of title 31 of the United States Code or any other provision of law, the Administrator shall require that the proceeds of any sale under this subsection be transferred, within 90 days after the sale, without charge, on a pro rata basis to the owners or operators of the affected units from whom the allowances were withheld under subsection (b) and that any unsold allowances be transferred to the Subaccount for Auction Sales established under subsection (d). No proceeds of any sale under this subsection shall be held by any officer or employee of the United States or treated for any purpose as revenue to the United States or to the Administrator.

"(7) TERMINATION OF SUBACCOUNT.—If the Administrator determines that, during any period of 2 consecutive calendar years, less than 20 percent of the allowances available in the subaccount for direct sales established under this subsection have been purchased under this paragraph, the Administrator shall terminate the subaccount and transfer such allowances to the Auction Subaccount under subsection (d).

"(d) AUCTION SALES.—

"(1) SUBACCOUNT FOR AUCTIONS.—The Administrator shall establish an Auction Subaccount in the Special Reserve established under this section. The Auction Subaccount shall contain allowances to be sold at auction under this section in the amount of 150,000 tons per year for each year from 1995 through 1999, inclusive and 250,000 tons per year for each year beginning in the calendar year 2000.

"(2) ANNUAL AUCTIONS.—Commencing in 1993 and in each year thereafter, the Administrator shall conduct auctions at which the allowances referred to in paragraph (1) shall be offered for sale in accordance with regulations promulgated by the Administrator, in consultation with the Secretary of the Treasury, within 12 months of enactment of the Clean Air Act Amendments of 1990. The allowances referred to in paragraph (1) shall be offered for sale at auction in the amounts specified in table 2. The auction shall be open to any person. A person wishing to bid for such allowances shall submit (by a date set by the Administrator) to the Administrator (on a sealed bid schedule provided by the Administrator) offers to purchase specified numbers of allowances at specified prices. Such regulations shall specify that the auctioned allowances shall be allocated and sold on the basis of bid price, starting with the highest-priced bid and continuing until all allowances for sale at such auction have been allocated. The regulations shall not permit that a minimum price be set for the purchase of withheld allowances. Allowances purchased at the auction may be used

Regulations.

for any purpose and at any time after the auction, subject to the provisions of this title.

"TABLE 2—NUMBER OF ALLOWANCES AVAILABLE FOR AUCTION

Year of Sale	Spot Auction (same year)	Advance Auction
1993	50,000*	100,000
1994	50,000*	100,000
1995	50,000*	100,000
1996	150,000	100,000
1997	150,000	100,000
1998	150,000	100,000
1999	150,000	100,000
2000 and after	100,000	100,000

Allowances sold in the spot sale in any year are allowances which may only be used in that year (unless banked for use in a later year), except as otherwise noted. Allowances sold in the advance auction in any year are allowances which may only be used in the 7th year after the year in which they are first offered for sale (unless banked for use in a later year).
*Available for use only in 1995 (unless banked for use in a later year).

"(3) PROCEEDS.—(A) Notwithstanding section 3302 of title 31 of the United States Code or any other provision of law, within 90 days of receipt, the Administrator shall transfer the proceeds from the auction under this section, on a pro rata basis, to the owners or operators of the affected units at an affected source from whom allowances were withheld under subsection (b). No funds transferred from a purchaser to a seller of allowances under this paragraph shall be held by any officer or employee of the United States or treated for any purpose as revenue to the United States or the Administrator

"(B) At the end of each year, any allowances offered for sale but not sold at the auction shall be returned without charge, on a pro rata basis, to the owner or operator of the affected units from whose allocation the allowances were withheld.

"(4) ADDITIONAL AUCTION PARTICIPANTS.—Any person holding allowances or to whom allowances are allocated by the Administrator may submit those allowances to the Administrator to be offered for sale at auction under this subsection. The proceeds of any such sale shall be transferred at the time of sale by the purchaser to the person submitting such allowances for sale. The holder of allowances offered for sale under this paragraph may specify a minimum sale price. Any person may purchase allowances offered for auction under this paragraph. Such allowances shall be allocated and sold to purchasers on the basis of bid price after the auction under paragraph (2) is complete. No funds transferred from a purchaser to a seller of allowances under this paragraph shall be held by any officer or employee of the United States or treated for any purpose as revenue to the United States or the Administrator.

Public information.

"(5) RECORDING BY EPA.—The Administrator shall record and publicly report the nature, prices and results of each auction under this subsection, including the prices of successful bids, and shall record the transfers of allowances as a result of each auction in accordance with the requirements of this section. The transfer of allowances at such auction shall be recorded in accordance with the regulations promulgated by the Administrator under this title.

"(e) CHANGES IN SALES, AUCTIONS, AND WITHHOLDING.—Pursuant to rulemaking after public notice and comment the Administrator may at any time after the year 1998 (in the case of advance sales or advance auctions) and 2005 (in the case of spot sales or spot auctions) decrease the number of allowances withheld and sold under this section.

"(f) TERMINATION OF AUCTIONS.—The Administrator may terminate the withholding of allowances and the auction sales under this section if the Administrator determines that, during any period of 3 consecutive calendar years after 2002, less than 20 percent of the allowances available in the auction subaccount have been purchased. Pursuant to regulations under this section, the Administrator may by delegation or contract provide for the conduct of sales or auctions under the Administrator's supervision by other departments or agencies of the United States Government or by nongovernmental agencies, groups, or organizations.".

SEC. 402. FOSSIL FUEL USE. 42 USC 7651b note.

(a) CONTRACTS FOR HYDROELECTRIC ENERGY.—Any person who, after the date of the enactment of the Clean Air Act Amendments of 1990, enters into a contract under which such person receives hydroelectric energy in return for the provision of electric energy by such person shall use allowances held by such person as necessary to satisfy such person's obligations under such contract.

(b) FEDERAL POWER MARKETING ADMINISTRATION.—A Federal Power Marketing Administration shall not be subject to the provisions and requirements of this title with respect to electric energy generated by hydroelectric facilities and marketed by such Power Marketing Administration. Any person who sells or provides electric energy to a Federal Power Marketing Administration shall comply with the provisions and requirements of this title.

SEC. 403. REPEAL OF PERCENT REDUCTION.

(a) REPEAL.—Section 111(a)(1) of the Clean Air Act is amended to read as follows: 42 USC 7411.

"(1) The term 'standard of performance' means a standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated.".

(b) REVISED REGULATIONS.—Not later than three years after the date of enactment of the Clean Air Act Amendments of 1990, the Administrator shall promulgate revised regulations for standards of performance for new fossil fuel fired electric utility units commencing construction after the date on which such regulations are proposed that, at a minimum, require any source subject to such revised standards to emit sulfur dioxide at a rate not greater than would have resulted from compliance by such source with the applicable standards of performance under this section prior to such revision. 42 USC 7411 note.

(c) APPLICABILITY.—The provisions of subsections (a) and (b) apply only so long as the provisions of section 403(e) of the Clean Air Act remain in effect. 42 USC 7411 note.

(d) BACT DETERMINATIONS.—Section 169(3) of the Clean Air Act is amended by inserting: ", clean fuels," after "including fuel cleaning," and by adding the following at the end thereof: "Emissions 42 USC 7479.

from any source utilizing clean fuels, or any other means, to comply with this paragraph shall not be allowed to increase above levels that would have been required under this paragraph as it existed prior to enactment of the Clean Air Act Amendments of 1990.".

42 USC 7651 note. Reports.

SEC. 404. ACID DEPOSITION STANDARDS.

Not later than 36 months after the date of enactment of this Act, the Administrator of the Environmental Protection Agency shall transmit to the Committee on Environment and Public Works of the Senate and the Committee on Energy and Commerce of the House of Representatives a report on the feasibility and effectiveness of an acid deposition standard or standards to protect sensitive and critically sensitive aquatic and terrestrial resources. The study required by this section shall include, but not be limited to, consideration of the following matters:

(1) identification of the sensitive and critically sensitive aquatic and terrestrial resources in the United States and Canada which may be affected by the deposition of acidic compounds;

(2) description of the nature and numerical value of a deposition standard or standards that would be sufficient to protect such resources;

(3) description of the use of such standard or standards in other Nations or by any of the several States in acid deposition control programs;

(4) description of the measures that would need to be taken to integrate such standard or standards with the control program required by title IV of the Clean Air Act;

(5) description of the state of knowledge with respect to source-receptor relationships necessary to develop a control program on such standard or standards and the additional research that is on-going or would be needed to make such a control program feasible; and

(6) description of the impediments to implementation of such control program and the cost-effectiveness of deposition standards compared to other control strategies including ambient air quality standards, new source performance standards and the requirements of title IV of the Clean Air Act.

42 USC 7403 note.

SEC. 405. NATIONAL ACID LAKES REGISTRY.

The Administrator of the Environmental Protection Agency shall create a National Acid Lakes Registry that shall list, to the extent practical, all lakes that are known to be acidified due to acid deposition, and shall publish such list within one year of the enactment of this Act. Lakes shall be added to the registry as they become acidic or as data becomes available to show they are acidic. Lakes shall be deleted from the registry as they become nonacidic.

42 USC 7651 note.

SEC. 406. INDUSTRIAL SO_2 EMISSIONS

(a) REPORT.—Not later than January 1, 1995 and every 5 years thereafter, the Administrator of the Environmental Protection Agency shall transmit to the Congress a report containing an inventory of national annual sulfur dioxide emissions from industrial sources (as defined in title IV of the Act), including units subject to section 405(g)(6) of the Clean Air Act, for all years for which data are available, as well as the likely trend in such emissions over the following twenty-year period. The reports shall also

contain estimates of the actual emission reduction in each year resulting from promulgation of the diesel fuel desulfurization regulations under section 214.

(b) 5.60 MILLION TON CAP.—Whenever the inventory required by this section indicates that sulfur dioxide emissions from industrial sources, including units subject to section 405(g)(5) of the Clean Air Act, may reasonably be expected to reach levels greater than 5.60 million tons per year, the Administrator of the Environmental Protection Agency shall take such actions under the Clean Air Act as may be appropriate to ensure that such emissions do not exceed 5.60 million tons per year. Such actions may include the promulgation of new and revised standards of performance for new sources, including units subject to section 405(g)(5) of the Clean Air Act, under section 111(b) of the Clean Air Act, as well as promulgation of standards of performance for existing sources, including units subject to section 405(g)(5) of the Clean Air Act, under authority of this section. For an existing source regulated under this section, "standard of performance" means a standard which the Administrator determines is applicable to that source and which reflects the degree of emission reduction achievable through the application of the best system of continuous emission reduction which (taking into consideration the cost of achieving such emission reduction, and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated for that category of sources.

(c) ELECTION.—Regulations promulgated under section 405(b) of the Clean Air Act shall not prohibit a source from electing to become an affected unit under section 410 of the Clean Air Act.

SEC. 407. SENSE OF THE CONGRESS ON EMISSION REDUCTIONS COSTS. 42 USC 7651 note.

It is the sense of the Congress that the Clean Air Act Amendments of 1990, through the allowance program, allocates the costs of achieving the required reductions in emissions of sulfur dioxide and oxides of nitrogen among sources in the United States. Broad based taxes and emissions fees that would provide for payment of the costs of achieving required emissions reductions by any party or parties other than the sources required to achieve the reductions are undesirable.

SEC. 408. MONITOR ACID RAIN PROGRAM IN CANADA. 42 USC 7651 note.

(a) REPORTS TO CONGRESS.—The Administrator of the Environmental Protection Agency, in consultation with the Secretary of State, the Secretary of Energy, and other persons the Administrator deems appropriate, shall prepare and submit a report to Congress on January 1, 1994, January 1, 1999, and January 1, 2005.

(b) CONTENTS.—The report to Congress shall analyze the current emission levels of sulfur dioxide and nitrogen oxides in each of the provinces participating in Canada's acid rain control program, the amount of emission reductions of sulfur dioxide and oxides of nitrogen achieved by each province, the methods utilized by each province in making those reductions, the costs to each province and the employment impacts in each province of making and maintaining those reductions.

(c) COMPLIANCE.—Beginning on January 1, 1999, the reports shall also assess the degree to which each province is complying with its stated emissions cap.

SEC. 409. REPORT ON CLEAN COAL TECHNOLOGIES EXPORT PROGRAMS.

The Secretary of Energy in consultation with the Secretary of Commerce shall provide a report to the Congress within one year of enactment of this legislation which will identify, inventory and analyze clean coal technologies export programs within United States Government agencies including the Departments of State, Commerce, and Energy and at the Export-Import Bank and the Overseas Private Investment Corporation. The study shall address the effectiveness of interagency coordination of export promotion and determine the feasibility of establishing an interagency commission for the purpose of promoting the export and use of clean coal technologies.

SEC. 410. ACID DEPOSITION RESEARCH BY THE UNITED STATES FISH AND WILDLIFE SERVICE.

Appropriation authorization.

There are authorized to be appropriated to the United States Fish and Wildlife Service of the Department of the Interior an amount equal to $500,000 to fund research related to acid deposition and the monitoring of high altitude mountain lakes in the Wind River Reservation, Wyoming, to be conducted through the Management Assistance Office of the United States Fish and Wildlife Service located in Lander, Wyoming and the University of Wyoming.

SEC. 411. STUDY OF BUFFERING AND NEUTRALIZING AGENTS.

There are authorized to be appropriated to the United States Fish and Wildlife Service of the Department of the Interior an amount equal to $250,000 to fund a study to be conducted in conjunction with the University of Wyoming of the effectiveness of various buffering and neutralizing agents used to restore lakes and streams damaged by acid deposition.

SEC. 412. CONFORMING AMENDMENT.

42 USC 7410.

Section 110(f)(1) of the Clean Air Act is amended by inserting "or of any requirement under section 411 (concerning excess emissions penalties or offsets) of title IV of the Act" after "implementation plan".

SEC. 413. SPECIAL CLEAN COAL TECHNOLOGY PROJECT.

(a) DEMONSTRATION PROJECT.—The Secretary of Energy shall, subject to appropriation, as part of the Secretary's activities with respect to fossil energy research and development under the Department of Energy Organization Act (Public Law 95-91) consider funding at least 50 percent of the cost of a demonstration project to design, construct, and test a technology system for a cyclone boiler that will serve as a model for sulfur dioxide and nitrogen oxide reduction technology at a combustion unit required to meet the emissions reductions prescribed in this bill. The Secretary shall expedite approval and funding to enable such project to be completed no later than January 1, 1995.

The unit selected for this project shall be in a utility plant that (1) is among the top 10 emitters of sulfur dioxide as identified on Table A of section 404; (2) has 3 or more units, 2 of which are cyclone boiler units; and (3) has no existing scrubbers.

(b) AUTHORIZATION.—There are authorized to be appropriated such sums as may be necessary to carry out this section, to remain available until expended.

TITLE V—PERMITS

Sec. 501. Permits.

SEC. 501. PERMITS.

Add the following new title after title IV:

"TITLE V—PERMITS

"Sec. 501. Definitions.
"Sec. 502. Permit programs.
"Sec. 503. Permit applications.
"Sec. 504. Permit requirements and conditions.
"Sec. 505. Notification to Administrator and contiguous States.
"Sec. 506. Other authorities.
"Sec. 507. Small business stationary source technical and environmental compliance assistance program.

"SEC. 501. DEFINITIONS. 42 USC 7661.

As used in this title—

"(1) AFFECTED SOURCE.—The term 'affected source' shall have the meaning given such term in title IV.

"(2) MAJOR SOURCE.—The term 'major source' means any stationary source (or any group of stationary sources located within a contiguous area and under common control) that is either of the following:

"(A) A major source as defined in section 112.

"(B) A major stationary source as defined in section 302 or part D of title I.

"(3) SCHEDULE OF COMPLIANCE.—The term 'schedule of compliance' means a schedule of remedial measures, including an enforceable sequence of actions or operations, leading to compliance with an applicable implementation plan, emission standard, emission limitation, or emission prohibition.

"(4) PERMITTING AUTHORITY.—The term 'permitting authority' means the Administrator or the air pollution control agency authorized by the Administrator to carry out a permit program under this title.

"SEC. 502. PERMIT PROGRAMS. 42 USC 7661a.

"(a) VIOLATIONS.—After the effective date of any permit program approved or promulgated under this title, it shall be unlawful for any person to violate any requirement of a permit issued under this title, or to operate an affected source (as provided in title IV), a major source, any other source (including an area source) subject to standards or regulations under section 111 or 112, any other source required to have a permit under parts C or D of title I, or any other stationary source in a category designated (in whole or in part) by regulations promulgated by the Administrator (after notice and public comment) which shall include a finding setting forth the basis for such designation, except in compliance with a permit issued by a permitting authority under this title. (Nothing in this subsection shall be construed to alter the applicable requirements of this Act that a permit be obtained before construction or modification.) The Administrator may, in the Administrator's discretion and consistent with the applicable provisions of this Act, promulgate regulations to exempt one or more source categories (in whole or in part) from the

requirements of this subsection if the Administrator finds that compliance with such requirements is impracticable, infeasible, or unnecessarily burdensome on such categories, except that the Administrator may not exempt any major source from such requirements.

"(b) REGULATIONS.—The Administrator shall promulgate within 12 months after the date of the enactment of the Clean Air Act Amendments of 1990 regulations establishing the minimum elements of a permit program to be administered by any air pollution control agency. These elements shall include each of the following:

"(1) Requirements for permit applications, including a standard application form and criteria for determining in a timely fashion the completeness of applications.

"(2) Monitoring and reporting requirements.

"(3)(A) A requirement under State or local law or interstate compact that the owner or operator of all sources subject to the requirement to obtain a permit under this title pay an annual fee, or the equivalent over some other period, sufficient to cover all reasonable (direct and indirect) costs required to develop and administer the permit program requirements of this title, including section 507, including the reasonable costs of—

"(i) reviewing and acting upon any application for such a permit,

"(ii) if the owner or operator receives a permit for such source, whether before or after the date of the enactment of the Clean Air Act Amendments of 1990, implementing and enforcing the terms and conditions of any such permit (not including any court costs or other costs associated with any enforcement action),

"(iii) emissions and ambient monitoring,

"(iv) preparing generally applicable regulations, or guidance,

"(v) modeling, analyses, and demonstrations, and

"(vi) preparing inventories and tracking emissions.

"(B) The total amount of fees collected by the permitting authority shall conform to the following requirements:

"(i) The Administrator shall not approve a program as meeting the requirements of this paragraph unless the State demonstrates that, except as otherwise provided in subparagraphs (ii) through (v) of this subparagraph, the program will result in the collection, in the aggregate, from all sources subject to subparagraph (A), of an amount not less than $25 per ton of each regulated pollutant, or such other amount as the Administrator may determine adequately reflects the reasonable costs of the permit program.

"(ii) As used in this subparagraph, the term 'regulated pollutant' shall mean (I) a volatile organic compound; (II) each pollutant regulated under section 111 or 112; and (III) each pollutant for which a national primary ambient air quality standard has been promulgated (except that carbon monoxide shall be excluded from this reference).

"(iii) In determining the amount under clause (i), the permitting authority is not required to include any amount of regulated pollutant emitted by any source in excess of 4,000 tons per year of that regulated pollutant.

"(iv) The requirements of clause (i) shall not apply if the permitting authority demonstrates that collecting an

amount less than the amount specified under clause (i) will meet the requirements of subparagraph (A).

"(v) The fee calculated under clause (i) shall be increased (consistent with the need to cover the reasonable costs authorized by subparagraph (A)) in each year beginning after the year of the enactment of the Clean Air Act Amendments of 1990 by the percentage, if any, by which the Consumer Price Index for the most recent calendar year ending before the beginning of such year exceeds the Consumer Price Index for the calendar year 1989. For purposes of this clause—

"(I) the Consumer Price Index for any calendar year is the average of the Consumer Price Index for all-urban consumers published by the Department of Labor, as of the close of the 12-month period ending on August 31 of each calendar year, and

"(II) the revision of the Consumer Price Index which is most consistent with the Consumer Price Index for calendar year 1989 shall be used.

"(C)(i) If the Administrator determines, under subsection (d), that the fee provisions of the operating permit program do not meet the requirements of this paragraph, or if the Administrator makes a determination, under subsection (i), that the permitting authority is not adequately administering or enforcing an approved fee program, the Administrator may, in addition to taking any other action authorized under this title, collect reasonable fees from the sources identified under subparagraph (A). Such fees shall be designed solely to cover the Administrator's costs of administering the provisions of the permit program promulgated by the Administrator.

"(ii) Any source that fails to pay fees lawfully imposed by the Administrator under this subparagraph shall pay a penalty of 50 percent of the fee amount, plus interest on the fee amount computed in accordance with section 6621(a)(2) of the Internal Revenue Code of 1986 (relating to computation of interest on underpayment of Federal taxes).

"(iii) Any fees, penalties, and interest collected under this subparagraph shall be deposited in a special fund in the United States Treasury for licensing and other services, which thereafter shall be available for appropriation, to remain available until expended, subject to appropriation, to carry out the Agency's activities for which the fees were collected. Any fee required to be collected by a State, local, or interstate agency under this subsection shall be utilized solely to cover all reasonable (direct and indirect) costs required to support the permit program as set forth in subparagraph (A).

"(4) Requirements for adequate personnel and funding to administer the program.

"(5) A requirement that the permitting authority have adequate authority to:

"(A) issue permits and assure compliance by all sources required to have a permit under this title with each applicable standard, regulation or requirement under this Act;

"(B) issue permits for a fixed term, not to exceed 5 years;

"(C) assure that upon issuance or renewal permits incorporate emission limitations and other requirements in an applicable implementation plan;

"(D) terminate, modify, or revoke and reissue permits for cause;

"(E) enforce permits, permit fee requirements, and the requirement to obtain a permit, including authority to recover civil penalties in a maximum amount of not less than $10,000 per day for each violation, and provide appropriate criminal penalties; and

"(F) assure that no permit will be issued if the Administrator objects to its issuance in a timely manner under this title.

"(6) Adequate, streamlined, and reasonable procedures for expeditiously determining when applications are complete, for processing such applications, for public notice, including offering an opportunity for public comment and a hearing, and for expeditious review of permit actions, including applications, renewals, or revisions, and including an opportunity for judicial review in State court of the final permit action by the applicant, any person who participated in the public comment process, and any other person who could obtain judicial review of that action under applicable law.

"(7) To ensure against unreasonable delay by the permitting authority, adequate authority and procedures to provide that a failure of such permitting authority to act on a permit application or permit renewal application (in accordance with the time periods specified in section 503 or, as appropriate, title IV) shall be treated as a final permit action solely for purposes of obtaining judicial review in State court of an action brought by any person referred to in paragraph (6) to require that action be taken by the permitting authority on such application without additional delay.

"(8) Authority, and reasonable procedures consistent with the need for expeditious action by the permitting authority on permit applications and related matters, to make available to the public any permit application, compliance plan, permit, and monitoring or compliance report under section 503(e), subject to the provisions of section 114(c) of this Act.

"(9) A requirement that the permitting authority, in the case of permits with a term of 3 or more years for major sources, shall require revisions to the permit to incorporate applicable standards and regulations promulgated under this Act after the issuance of such permit. Such revisions shall occur as expeditiously as practicable and consistent with the procedures established under paragraph (6) but not later than 18 months after the promulgation of such standards and regulations. No such revision shall be required if the effective date of the standards or regulations is a date after the expiration of the permit term. Such permit revision shall be treated as a permit renewal if it complies with the requirements of this title regarding renewals.

"(10) Provisions to allow changes within a permitted facility (or one operating pursuant to section 503(d)) without requiring a permit revision, if the changes are not modifications under any provision of title I and the changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or in terms of total emissions: *Provided,* That the

facility provides the Administrator and the permitting authority with written notification in advance of the proposed changes which shall be a minimum of 7 days, unless the permitting authority provides in its regulations a different timeframe for emergencies.

"(c) SINGLE PERMIT.—A single permit may be issued for a facility with multiple sources.

"(d) SUBMISSION AND APPROVAL.—(1) Not later than 3 years after the date of the enactment of the Clean Air Act Amendments of 1990, the Governor of each State shall develop and submit to the Administrator a permit program under State or local law or under an interstate compact meeting the requirements of this title. In addition, the Governor shall submit a legal opinion from the attorney general (or the attorney for those State air pollution control agencies that have independent legal counsel), or from the chief legal officer of an interstate agency, that the laws of the State, locality, or the interstate compact provide adequate authority to carry out the program. Not later than 1 year after receiving a program, and after notice and opportunity for public comment, the Administrator shall approve or disapprove such program, in whole or in part. The Administrator may approve a program to the extent that the program meets the requirements of this Act, including the regulations issued under subsection (b). If the program is disapproved, in whole or in part, the Administrator shall notify the Governor of any revisions or modifications necessary to obtain approval. The Governor shall revise and resubmit the program for review under this section within 180 days after receiving notification.

"(2)(A) If the Governor does not submit a program as required under paragraph (1) or if the Administrator disapproves a program submitted by the Governor under paragraph (1), in whole or in part, the Administrator may, prior to the expiration of the 18-month period referred to in subparagraph (B), in the Administrator's discretion, apply any of the sanctions specified in section 179(b).

"(B) If the Governor does not submit a program as required under paragraph (1), or if the Administrator disapproves any such program submitted by the Governor under paragraph (1), in whole or in part, 18 months after the date required for such submittal or the date of such disapproval, as the case may be, the Administrator shall apply sanctions under section 179(b) in the same manner and subject to the same deadlines and other conditions as are applicable in the case of a determination, disapproval, or finding under section 179(a).

"(C) The sanctions under section 179(b)(2) shall not apply pursuant to this paragraph in any area unless the failure to submit or the disapproval referred to in subparagraph (A) or (B) relates to an air pollutant for which such area has been designated a nonattainment area (as defined in part D of title I).

"(3) If a program meeting the requirements of this title has not been approved in whole for any State, the Administrator shall, 2 years after the date required for submission of such a program under paragraph (1), promulgate, administer, and enforce a program under this title for that State.

"(e) SUSPENSION.—The Administrator shall suspend the issuance of permits promptly upon publication of notice of approval of a permit program under this section, but may, in such notice, retain jurisdiction over permits that have been federally issued, but for which the administrative or judicial review process is not complete. The Administrator shall continue to administer and enforce feder-

ally issued permits under this title until they are replaced by a permit issued by a permitting program. Nothing in this subsection should be construed to limit the Administrator's ability to enforce permits issued by a State.

"(f) PROHIBITION.—No partial permit program shall be approved unless, at a minimum, it applies, and ensures compliance with, this title and each of the following:

"(1) All requirements established under title IV applicable to 'affected sources'.

"(2) All requirements established under section 112 applicable to 'major sources', 'area sources,' and 'new sources'.

"(3) All requirements of title I (other than section 112) applicable to sources required to have a permit under this title.

Approval of a partial program shall not relieve the State of its obligation to submit a complete program, nor from the application of any sanctions under this Act for failure to submit an approvable permit program.

"(g) INTERIM APPROVAL.—If a program (including a partial permit program) submitted under this title substantially meets the requirements of this title, but is not fully approvable, the Administrator may by rule grant the program interim approval. In the notice of final rulemaking, the Administrator shall specify the changes that must be made before the program can receive full approval. An interim approval under this subsection shall expire on a date set by the Administrator not later than 2 years after such approval, and may not be renewed. For the period of any such interim approval, the provisions of subsection (d)(2), and the obligation of the Administrator to promulgate a program under this title for the State pursuant to subsection (d)(3), shall be suspended. Such provisions and such obligation of the Administrator shall apply after the expiration of such interim approval.

"(h) EFFECTIVE DATE.—The effective date of a permit program, or partial or interim program, approved under this title, shall be the effective date of approval by the Administrator. The effective date of a permit program, or partial permit program, promulgated by the Administrator shall be the date of promulgation.

"(i) ADMINISTRATION AND ENFORCEMENT.—(1) Whenever the Administrator makes a determination that a permitting authority is not adequately administering and enforcing a program, or portion thereof, in accordance with the requirements of this title, the Administrator shall provide notice to the State and may, prior to the expiration of the 18-month period referred to in paragraph (2), in the Administrator's discretion, apply any of the sanctions specified in section 179(b).

"(2) Whenever the Administrator makes a determination that a permitting authority is not adequately administering and enforcing a program, or portion thereof, in accordance with the requirements of this title, 18 months after the date of the notice under paragraph (1), the Administrator shall apply the sanctions under section 179(b) in the same manner and subject to the same deadlines and other conditions as are applicable in the case of a determination, disapproval, or finding under section 179(a).

"(3) The sanctions under section 179(b)(2) shall not apply pursuant to this subsection in any area unless the failure to adequately enforce and administer the program relates to an air pollutant for which such area has been designated a nonattainment area.

"(4) Whenever the Administrator has made a finding under paragraph (1) with respect to any State, unless the State has corrected such deficiency within 18 months after the date of such finding, the Administrator shall, 2 years after the date of such finding, promulgate, administer, and enforce a program under this title for that State. Nothing in this paragraph shall be construed to affect the validity of a program which has been approved under this title or the authority of any permitting authority acting under such program until such time as such program is promulgated by the Administrator under this paragraph.

"SEC. 503. PERMIT APPLICATIONS. 42 USC 7661b.

"(a) APPLICABLE DATE.—Any source specified in section 502(a) shall become subject to a permit program, and required to have a permit, on the later of the following dates—

"(1) the effective date of a permit program or partial or interim permit program applicable to the source; or

"(2) the date such source becomes subject to section 502(a).

"(b) COMPLIANCE PLAN.—(1) The regulations required by section 502(b) shall include a requirement that the applicant submit with the permit application a compliance plan describing how the source will comply with all applicable requirements under this Act. The compliance plan shall include a schedule of compliance, and a schedule under which the permittee will submit progress reports to the permitting authority no less frequently than every 6 months. Reports.

"(2) The regulations shall further require the permittee to periodically (but no less frequently than annually) certify that the facility is in compliance with any applicable requirements of the permit, and to promptly report any deviations from permit requirements to the permitting authority.

"(c) DEADLINE.—Any person required to have a permit shall, not later than 12 months after the date on which the source becomes subject to a permit program approved or promulgated under this title, or such earlier date as the permitting authority may establish, submit to the permitting authority a compliance plan and an application for a permit signed by a responsible official, who shall certify the accuracy of the information submitted. The permitting authority shall approve or disapprove a completed application (consistent with the procedures established under this title for consideration of such applications), and shall issue or deny the permit, within 18 months after the date of receipt thereof, except that the permitting authority shall establish a phased schedule for acting on permit applications submitted within the first full year after the effective date of a permit program (or a partial or interim program). Any such schedule shall assure that at least one-third of such permits will be acted on by such authority annually over a period of not to exceed 3 years after such effective date. Such authority shall establish reasonable procedures to prioritize such approval or disapproval actions in the case of applications for construction or modification under the applicable requirements of this Act.

"(d) TIMELY AND COMPLETE APPLICATIONS.—Except for sources required to have a permit before construction or modification under the applicable requirements of this Act, if an applicant has submitted a timely and complete application for a permit required by this title (including renewals), but final action has not been taken on such application, the source's failure to have a permit shall not be a

violation of this Act, unless the delay in final action was due to the failure of the applicant timely to submit information required or requested to process the application. No source required to have a permit under this title shall be in violation of section 502(a) before the date on which the source is required to submit an application under subsection (c).

Public information.

"(e) COPIES; AVAILABILITY.—A copy of each permit application, compliance plan (including the schedule of compliance), emissions or compliance monitoring report, certification, and each permit issued under this title, shall be available to the public. If an applicant or permittee is required to submit information entitled to protection from disclosure under section 114(c) of this Act, the applicant or permittee may submit such information separately. The requirements of section 114(c) shall apply to such information. The contents of a permit shall not be entitled to protection under section 114(c).

42 USC 7661c.

"SEC. 504. PERMIT REQUIREMENTS AND CONDITIONS.

"(a) CONDITIONS.—Each permit issued under this title shall include enforceable emission limitations and standards, a schedule of compliance, a requirement that the permittee submit to the permitting authority, no less often than every 6 months, the results of any required monitoring, and such other conditions as are necessary to assure compliance with applicable requirements of this Act, including the requirements of the applicable implementation plan.

"(b) MONITORING AND ANALYSIS.—The Administrator may by rule prescribe procedures and methods for determining compliance and for monitoring and analysis of pollutants regulated under this Act, but continuous emissions monitoring need not be required if alternative methods are available that provide sufficiently reliable and timely information for determining compliance. Nothing in this subsection shall be construed to affect any continuous emissions monitoring requirement of title IV, or where required elsewhere in this Act.

"(c) INSPECTION, ENTRY, MONITORING, CERTIFICATION, AND REPORTING.—Each permit issued under this title shall set forth inspection, entry, monitoring, compliance certification, and reporting requirements to assure compliance with the permit terms and conditions. Such monitoring and reporting requirements shall conform to any applicable regulation under subsection (b). Any report required to be submitted by a permit issued to a corporation under this title shall be signed by a responsible corporate official, who shall certify its accuracy.

"(d) GENERAL PERMITS.—The permitting authority may, after notice and opportunity for public hearing, issue a general permit covering numerous similar sources. Any general permit shall comply with all requirements applicable to permits under this title. No source covered by a general permit shall thereby be relieved from the obligation to file an application under section 503.

"(e) TEMPORARY SOURCES.—The permitting authority may issue a single permit authorizing emissions from similar operations at multiple temporary locations. No such permit shall be issued unless it includes conditions that will assure compliance with all the requirements of this Act at all authorized locations, including, but not limited to, ambient standards and compliance with any applicable increment or visibility requirements under part C of title I. Any such permit shall in addition require the owner or operator to notify

the permitting authority in advance of each change in location. The permitting authority may require a separate permit fee for operations at each location.

"(f) PERMIT SHIELD.—Compliance with a permit issued in accordance with this title shall be deemed compliance with section 502. Except as otherwise provided by the Administrator by rule, the permit may also provide that compliance with the permit shall be deemed compliance with other applicable provisions of this Act that relate to the permittee if—

"(1) the permit includes the applicable requirements of such provisions, or

"(2) the permitting authority in acting on the permit application makes a determination relating to the permittee that such other provisions (which shall be referred to in such determination) are not applicable and the permit includes the determination or a concise summary thereof.

Nothing in the preceding sentence shall alter or affect the provisions of section 303, including the authority of the Administrator under that section.

"SEC. 505. NOTIFICATION TO ADMINISTRATOR AND CONTIGUOUS STATES. 42 USC 7661d.

"(a) TRANSMISSION AND NOTICE.—(1) Each permitting authority—

"(A) shall transmit to the Administrator a copy of each permit application (and any application for a permit modification or renewal) or such portion thereof, including any compliance plan, as the Administrator may require to effectively review the application and otherwise to carry out the Administrator's responsibilities under this Act, and

"(B) shall provide to the Administrator a copy of each permit proposed to be issued and issued as a final permit.

"(2) The permitting authority shall notify all States—

"(A) whose air quality may be affected and that are contiguous to the State in which the emission originates, or

"(B) that are within 50 miles of the source,

of each permit application or proposed permit forwarded to the Administrator under this section, and shall provide an opportunity for such States to submit written recommendations respecting the issuance of the permit and its terms and conditions. If any part of those recommendations are not accepted by the permitting authority, such authority shall notify the State submitting the recommendations and the Administrator in writing of its failure to accept those recommendations and the reasons therefor.

"(b) OBJECTION BY EPA.—(1) If any permit contains provisions that are determined by the Administrator as not in compliance with the applicable requirements of this Act, including the requirements of an applicable implementation plan, the Administrator shall, in accordance with this subsection, object to its issuance. The permitting authority shall respond in writing if the Administrator (A) within 45 days after receiving a copy of the proposed permit under subsection (a)(1), or (B) within 45 days after receiving notification under subsection (a)(2), objects in writing to its issuance as not in compliance with such requirements. With the objection, the Administrator shall provide a statement of the reasons for the objection. A copy of the objection and statement shall be provided to the applicant.

"(2) If the Administrator does not object in writing to the issuance of a permit pursuant to paragraph (1), any person may petition the

Administrator within 60 days after the expiration of the 45-day review period specified in paragraph (1) to take such action. A copy of such petition shall be provided to the permitting authority and the applicant by the petitioner. The petition shall be based only on objections to the permit that were raised with reasonable specificity during the public comment period provided by the permitting agency (unless the petitioner demonstrates in the petition to the Administrator that it was impracticable to raise such objections within such period or unless the grounds for such objection arose after such period). The petition shall identify all such objections. If the permit has been issued by the permitting agency, such petition shall not postpone the effectiveness of the permit. The Administrator shall grant or deny such petition within 60 days after the petition is filed. The Administrator shall issue an objection within such period if the petitioner demonstrates to the Administrator that the permit is not in compliance with the requirements of this Act, including the requirements of the applicable implementation plan. Any denial of such petition shall be subject to judicial review under section 307. The Administrator shall include in regulations under this title provisions to implement this paragraph. The Administrator may not delegate the requirements of this paragraph.

"(3) Upon receipt of an objection by the Administrator under this subsection, the permitting authority may not issue the permit unless it is revised and issued in accordance with subsection (c). If the permitting authority has issued a permit prior to receipt of an objection by the Administrator under paragraph (2) of this subsection, the Administrator shall modify, terminate, or revoke such permit and the permitting authority may thereafter only issue a revised permit in accordance with subsection (c).

"(c) ISSUANCE OR DENIAL.—If the permitting authority fails, within 90 days after the date of an objection under subsection (b), to submit a permit revised to meet the objection, the Administrator shall issue or deny the permit in accordance with the requirements of this title. No objection shall be subject to judicial review until the Administrator takes final action to issue or deny a permit under this subsection.

"(d) WAIVER OF NOTIFICATION REQUIREMENTS.—(1) The Administrator may waive the requirements of subsections (a) and (b) at the time of approval of a permit program under this title for any category (including any class, type, or size within such category) of sources covered by the program other than major sources.

"(2) The Administrator may, by regulation, establish categories of sources (including any class, type, or size within such category) to which the requirements of subsections (a) and (b) shall not apply. The preceding sentence shall not apply to major sources.

"(3) The Administrator may exclude from any waiver under this subsection notification under subsection (a)(2). Any waiver granted under this subsection may be revoked or modified by the Administrator by rule.

"(e) REFUSAL OF PERMITTING AUTHORITY TO TERMINATE, MODIFY, OR REVOKE AND REISSUE.—If the Administrator finds that cause exists to terminate, modify, or revoke and reissue a permit under this title, the Administrator shall notify the permitting authority and the source of the Administrator's finding. The permitting authority shall, within 90 days after receipt of such notification, forward to the Administrator under this section a proposed determination of termination, modification, or revocation and reissuance,

as appropriate. The Administrator may extend such 90 day period for an additional 90 days if the Administrator finds that a new or revised permit application is necessary, or that the permitting authority must require the permittee to submit additional information. The Administrator may review such proposed determination under the provisions of subsections (a) and (b). If the permitting authority fails to submit the required proposed determination, or if the Administrator objects and the permitting authority fails to resolve the objection within 90 days, the Administrator may, after notice and in accordance with fair and reasonable procedures, terminate, modify, or revoke and reissue the permit.

"SEC. 506. OTHER AUTHORITIES. 42 USC 7661e.

"(a) IN GENERAL.—Nothing in this title shall prevent a State, or interstate permitting authority, from establishing additional permitting requirements not inconsistent with this Act.

"(b) PERMITS IMPLEMENTING ACID RAIN PROVISIONS.—The provisions of this title, including provisions regarding schedules for submission and approval or disapproval of permit applications, shall apply to permits implementing the requirements of title IV except as modified by that title.

"SEC. 507. SMALL BUSINESS STATIONARY SOURCE TECHNICAL AND ENVIRONMENTAL COMPLIANCE ASSISTANCE PROGRAM. 42 USC 7661f.

"(a) PLAN REVISIONS.—Consistent with sections 110 and 112, each State shall, after reasonable notice and public hearings, adopt and submit to the Administrator as part of the State implementation plan for such State or as a revision to such State implementation plan under section 110, plans for establishing a small business stationary source technical and environmental compliance assistance program. Such submission shall be made within 24 months after the date of the enactment of the Clean Air Act Amendments of 1990. The Administrator shall approve such program if it includes each of the following:

"(1) Adequate mechanisms for developing, collecting, and coordinating information concerning compliance methods and technologies for small business stationary sources, and programs to encourage lawful cooperation among such sources and other persons to further compliance with this Act.

"(2) Adequate mechanisms for assisting small business stationary sources with pollution prevention and accidental release detection and prevention, including providing information concerning alternative technologies, process changes, products, and methods of operation that help reduce air pollution.

"(3) A designated State office within the relevant State agency to serve as ombudsman for small business stationary sources in connection with the implementation of this Act.

"(4) A compliance assistance program for small business stationary sources which assists small business stationary sources in determining applicable requirements and in receiving permits under this Act in a timely and efficient manner.

"(5) Adequate mechanisms to assure that small business stationary sources receive notice of their rights under this Act in such manner and form as to assure reasonably adequate time for such sources to evaluate compliance methods and any relevant or applicable proposed or final regulation or standard issued under this Act.

"(6) Adequate mechanisms for informing small business stationary sources of their obligations under this Act, including mechanisms for referring such sources to qualified auditors or, at the option of the State, for providing audits of the operations of such sources to determine compliance with this Act.

"(7) Procedures for consideration of requests from a small business stationary source for modification of—

"(A) any work practice or technological method of compliance, or

"(B) the schedule of milestones for implementing such work practice or method of compliance preceding any applicable compliance date,

based on the technological and financial capability of any such small business stationary source. No such modification may be granted unless it is in compliance with the applicable requirements of this Act, including the requirements of the applicable implementation plan. Where such applicable requirements are set forth in Federal regulations, only modifications authorized in such regulations may be allowed.

"(b) PROGRAM.—The Administrator shall establish within 9 months after the date of the enactment of the Clean Air Act Amendments of 1990 a small business stationary source technical and environmental compliance assistance program. Such program shall—

"(1) assist the States in the development of the program required under subsection (a) (relating to assistance for small business stationary sources);

"(2) issue guidance for the use of the States in the implementation of these programs that includes alternative control technologies and pollution prevention methods applicable to small business stationary sources; and

"(3) provide for implementation of the program provisions required under subsection (a)(4) in any State that fails to submit such a program under that subsection.

"(c) ELIGIBILITY.—(1) Except as provided in paragraphs (2) and (3), for purposes of this section, the term 'small business stationary source' means a stationary source that—

"(A) is owned or operated by a person that employs 100 or fewer individuals,

"(B) is a small business concern as defined in the Small Business Act;

"(C) is not a major stationary source;

"(D) does not emit 50 tons or more per year of any regulated pollutant; and

"(E) emits less than 75 tons per year of all regulated pollutants.

"(2) Upon petition by a source, the State may, after notice and opportunity for public comment, include as a small business stationary source for purposes of this section any stationary source which does not meet the criteria of subparagraphs (C), (D), or (E) of paragraph (1) but which does not emit more than 100 tons per year of all regulated pollutants.

"(3)(A) The Administrator, in consultation with the Administrator of the Small Business Administration and after providing notice and opportunity for public comment, may exclude from the small business stationary source definition under this section any category or subcategory of sources that the Administrator determines to have

sufficient technical and financial capabilities to meet the requirements of this Act without the application of this subsection.

"(B) The State, in consultation with the Administrator and the Administrator of the Small Business Administration and after providing notice and opportunity for public hearing, may exclude from the small business stationary source definition under this section any category or subcategory of sources that the State determines to have sufficient technical and financial capabilities to meet the requirements of this Act without the application of this subsection.

"(d) MONITORING.—The Administrator shall direct the Agency's Office of Small and Disadvantaged Business Utilization through the Small Business Ombudsman (hereinafter in this section referred to as the 'Ombudsman') to monitor the small business stationary source technical and environmental compliance assistance program under this section. In carrying out such monitoring activities, the Ombudsman shall—

"(1) render advisory opinions on the overall effectiveness of the Small Business Stationary Source Technical and Environmental Compliance Assistance Program, difficulties encountered, and degree and severity of enforcement;

"(2) make periodic reports to the Congress on the compliance of the Small Business Stationary Source Technical and Environmental Compliance Assistance Program with the requirements of the Paperwork Reduction Act, the Regulatory Flexibility Act, and the Equal Access to Justice Act; Reports.

"(3) review information to be issued by the Small Business Stationary Source Technical and Environmental Compliance Assistance Program for small business stationary sources to ensure that the information is understandable by the layperson; and

"(4) have the Small Business Stationary Source Technical and Environmental Compliance Assistance Program serve as the secretariat for the development and dissemination of such reports and advisory opinions.

"(e) COMPLIANCE ADVISORY PANEL.—(1) There shall be created a Compliance Advisory Panel (hereinafter referred to as the 'Panel') on the State level of not less than 7 individuals. This Panel shall—

"(A) render advisory opinions concerning the effectiveness of the small business stationary source technical and environmental compliance assistance program, difficulties encountered, and degree and severity of enforcement;

"(B) make periodic reports to the Administrator concerning the compliance of the State Small Business Stationary Source Technical and Environmental Compliance Assistance Program with the requirements of the Paperwork Reduction Act, the Regulatory Flexibility Act, and the Equal Access to Justice Act; Reports.

"(C) review information for small business stationary sources to assure such information is understandable by the layperson; and

"(D) have the Small Business Stationary Source Technical and Environmental Compliance Assistance Program serve as the secretariat for the development and dissemination of such reports and advisory opinions.

"(2) The Panel shall consist of—

"(A) 2 members, who are not owners, or representatives of owners, of small business stationary sources, selected by the Governor to represent the general public;

"(B) 2 members selected by the State legislature who are owners, or who represent owners, of small business stationary sources (1 member each by the majority and minority leadership of the lower house, or in the case of a unicameral State legislature, 2 members each shall be selected by the majority leadership and the minority leadership, respectively, of such legislature, and subparagraph (C) shall not apply);

"(C) 2 members selected by the State legislature who are owners, or who represent owners, of small business stationary sources (1 member each by the majority and minority leadership of the upper house, or the equivalent State entity); and

"(D) 1 member selected by the head of the department or agency of the State responsible for air pollution permit programs to represent that agency.

"(f) FEES.—The State (or the Administrator) may reduce any fee required under this Act to take into account the financial resources of small business stationary sources.

"(g) CONTINUOUS EMISSION MONITORS.—In developing regulations and CTGs under this Act that contain continuous emission monitoring requirements, the Administrator, consistent with the requirements of this Act, before applying such requirements to small business stationary sources, shall consider the necessity and appropriateness of such requirements for such sources. Nothing in this subsection shall affect the applicability of title IV provisions relating to continuous emissions monitoring.

"(h) CONTROL TECHNIQUE GUIDELINES.—The Administrator shall consider, consistent with the requirements of this Act, the size, type, and technical capabilities of small business stationary sources (and sources which are eligible under subsection (c)(2) to be treated as small business stationary sources) in developing CTGs applicable to such sources under this Act.".

TITLE VI—STRATOSPHERIC OZONE PROTECTION

TITLE VI—STRATOSPHERIC OZONE PROTECTION

Sec. 601. Part B repeal.
Sec. 602. Stratospheric ozone protection.
Sec. 603. Methane studies.

SEC. 601. PART B REPEAL.

42 USC 7450–7459.

Part B of title I of the Clean Air Act entitled "Ozone Protection", sections 150 through 159, is hereby repealed.

SEC. 602. STRATOSPHERIC OZONE PROTECTION.

(a) NEW TITLE VI.—The Clean Air Act is amended by adding the following new title after title V:

"TITLE VI—STRATOSPHERIC OZONE PROTECTION

"TABLE OF CONTENTS

"Sec. 601. Definitions.
"Sec. 602. Listing of class I and class II substances.
"Sec. 603. Monitoring and reporting requirements.
"Sec. 604. Phase-out of production and consumption of class I substances.
"Sec. 605. Phase-out of production and consumption of class II substances.
"Sec. 606. Accelerated schedule.
"Sec. 607. Exchanges.
"Sec. 608. National recycling and emission reduction program.
"Sec. 609. Servicing of motor vehicle air conditioners.
"Sec. 610. Nonessential products containing chlorofluorocarbons.
"Sec. 611. Labeling.
"Sec. 612. Safe alternatives policy.
"Sec. 613. Federal procurement.
"Sec. 614. Relationship to other law.
"Sec. 615. Authority of Administrator.
"Sec. 616. Transfers among Parties to the Montreal Protocol.
"Sec. 617. International cooperation.
"Sec. 618. Miscellaneous.

"SEC. 601. DEFINITIONS. 42 USC 7671.

"As used in this title—

"(1) APPLIANCE.—The term 'appliance' means any device which contains and uses a class I or class II substance as a refrigerant and which is used for household or commercial purposes, including any air conditioner, refrigerator, chiller, or freezer.

"(2) BASELINE YEAR.—The term 'baseline year' means—

"(A) the calendar year 1986, in the case of any class I substance listed in Group I or II under section 602(a),

"(B) the calendar year 1989, in the case of any class I substance listed in Group III, IV, or V under section 602(a), and

"(C) a representative calendar year selected by the Administrator, in the case of—

"(i) any substance added to the list of class I substances after the publication of the initial list under section 602(a), and

"(ii) any class II substance.

"(3) CLASS I SUBSTANCE.—The term 'class I substance' means each of the substances listed as provided in section 602(a).

"(4) CLASS II SUBSTANCE.—The term 'class II substance' means each of the substances listed as provided in section 602(b).

"(5) COMMISSIONER.—The term 'Commissioner' means the Commissioner of the Food and Drug Administration.

"(6) CONSUMPTION.—The term 'consumption' means, with respect to any substance, the amount of that substance produced in the United States, plus the amount imported, minus the amount exported to Parties to the Montreal Protocol. Such term shall be construed in a manner consistent with the Montreal Protocol.

"(7) IMPORT.—The term 'import' means to land on, bring into, or introduce into, or attempt to land on, bring into, or introduce into, any place subject to the jurisdiction of the United States, whether or not such landing, bringing, or introduction con-

stitutes an importation within the meaning of the customs laws of the United States.

"(8) MEDICAL DEVICE.—The term 'medical device' means any device (as defined in the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 321)), diagnostic product, drug (as defined in the Federal Food, Drug, and Cosmetic Act), and drug delivery system—

"(A) if such device, product, drug, or drug delivery system utilizes a class I or class II substance for which no safe and effective alternative has been developed, and where necessary, approved by the Commissioner; and

"(B) if such device, product, drug, or drug delivery system, has, after notice and opportunity for public comment, been approved and determined to be essential by the Commissioner in consultation with the Administrator.

"(9) MONTREAL PROTOCOL.—The terms 'Montreal Protocol' and 'the Protocol' mean the Montreal Protocol on Substances that Deplete the Ozone Layer, a protocol to the Vienna Convention for the Protection of the Ozone Layer, including adjustments adopted by Parties thereto and amendments that have entered into force.

"(10) OZONE-DEPLETION POTENTIAL.—The term 'ozone-depletion potential' means a factor established by the Administrator to reflect the ozone-depletion potential of a substance, on a mass per kilogram basis, as compared to chlorofluorocarbon-11 (CFC–11). Such factor shall be based upon the substance's atmospheric lifetime, the molecular weight of bromine and chlorine, and the substance's ability to be photolytically disassociated, and upon other factors determined to be an accurate measure of relative ozone-depletion potential.

"(11) PRODUCE, PRODUCED, AND PRODUCTION.—The terms 'produce', 'produced', and 'production', refer to the manufacture of a substance from any raw material or feedstock chemical, but such terms do not include—

"(A) the manufacture of a substance that is used and entirely consumed (except for trace quantities) in the manufacture of other chemicals, or

"(B) the reuse or recycling of a substance.

42 USC 7671a.

"SEC. 602. LISTING OF CLASS I AND CLASS II SUBSTANCES.

"(a) LIST OF CLASS I SUBSTANCES.—Within 60 days after enactment of the Clean Air Act Amendments of 1990, the Administrator shall publish an initial list of class I substances, which list shall contain the following substances:

Group I
chlorofluorocarbon-11 (CFC–11)
chlorofluorocarbon-12 (CFC–12)
chlorofluorocarbon-113 (CFC–113)
chlorofluorocarbon-114 (CFC–114)
chlorofluorocarbon-115 (CFC–115)

Group II
halon-1211
halon-1301
halon-2402

Group III
chlorofluorocarbon-13 (CFC–13)
chlorofluorocarbon-111 (CFC–111)
chlorofluorocarbon-112 (CFC–112)

chlorofluorocarbon-211 (CFC-211)
chlorofluorocarbon-212 (CFC-212)
chlorofluorocarbon-213 (CFC-213)
chlorofluorocarbon-214 (CFC-214)
chlorofluorocarbon-215 (CFC-215)
chlorofluorocarbon-216 (CFC-216)
chlorofluorocarbon-217 (CFC-217)

Group IV
carbon tetrachloride

Group V
methyl chloroform

The initial list under this subsection shall also include the isomers of the substances listed above, other than 1,1,2-trichloroethane (an isomer of methyl chloroform). Pursuant to subsection (c), the Administrator shall add to the list of class I substances any other substance that the Administrator finds causes or contributes significantly to harmful effects on the stratospheric ozone layer. The Administrator shall, pursuant to subsection (c), add to such list all substances that the Administrator determines have an ozone depletion potential of 0.2 or greater.

"(b) LIST OF CLASS II SUBSTANCES.—Simultaneously with publication of the initial list of class I substances, the Administrator shall publish an initial list of class II substances, which shall contain the following substances:

hydrochlorofluorocarbon-21 (HCFC-21)
hydrochlorofluorocarbon-22 (HCFC-22)
hydrochlorofluorocarbon-31 (HCFC-31)
hydrochlorofluorocarbon-121 (HCFC-121)
hydrochlorofluorocarbon-122 (HCFC-122)
hydrochlorofluorocarbon-123 (HCFC-123)
hydrochlorofluorocarbon-124 (HCFC-124)
hydrochlorofluorocarbon-131 (HCFC-131)
hydrochlorofluorocarbon-132 (HCFC-132)
hydrochlorofluorocarbon-133 (HCFC-133)
hydrochlorofluorocarbon-141 (HCFC-141)
hydrochlorofluorocarbon-142 (HCFC-142)
hydrochlorofluorocarbon-221 (HCFC-221)
hydrochlorofluorocarbon-222 (HCFC-222)
hydrochlorofluorocarbon-223 (HCFC-223)
hydrochlorofluorocarbon-224 (HCFC-224)
hydrochlorofluorocarbon-225 (HCFC-225)
hydrochlorofluorocarbon-226 (HCFC-226)
hydrochlorofluorocarbon-231 (HCFC-231)
hydrochlorofluorocarbon-232 (HCFC-232)
hydrochlorofluorocarbon-233 (HCFC-233)
hydrochlorofluorocarbon-234 (HCFC-234)
hydrochlorofluorocarbon-235 (HCFC-235)
hydrochlorofluorocarbon-241 (HCFC-241)
hydrochlorofluorocarbon-242 (HCFC-242)
hydrochlorofluorocarbon-243 (HCFC-243)
hydrochlorofluorocarbon-244 (HCFC-244)
hydrochlorofluorocarbon-251 (HCFC-251)
hydrochlorofluorocarbon-252 (HCFC-252)
hydrochlorofluorocarbon-253 (HCFC-253)
hydrochlorofluorocarbon-261 (HCFC-261)
hydrochlorofluorocarbon-262 (HCFC-262)
hydrochlorofluorocarbon-271 (HCFC-271)

The initial list under this subsection shall also include the isomers of the substances listed above. Pursuant to subsection (c), the Administrator shall add to the list of class II substances any other substance that the Administrator finds is known or may reasonably be anticipated to cause or contribute to harmful effects on the stratospheric ozone layer.

"(c) ADDITIONS TO THE LISTS.—(1) The Administrator may add, by rule, in accordance with the criteria set forth in subsection (a) or (b), as the case may be, any substance to the list of class I or class II substances under subsection (a) or (b). For purposes of exchanges under section 507, whenever a substance is added to the list of class I substances the Administrator shall, to the extent consistent with the Montreal Protocol, assign such substance to existing Group I, II, III, IV, or V or place such substance in a new Group.

"(2) Periodically, but not less frequently than every 3 years after the enactment of the Clean Air Act Amendments of 1990, the Administrator shall list, by rule, as additional class I or class II substances those substances which the Administrator finds meet the criteria of subsection (a) or (b), as the case may be.

"(3) At any time, any person may petition the Administrator to add a substance to the list of class I or class II substances. Pursuant to the criteria set forth in subsection (a) or (b) as the case may be, within 180 days after receiving such a petition, the Administrator shall either propose to add the substance to such list or publish an explanation of the petition denial. In any case where the Administrator proposes to add a substance to such list, the Administrator shall add, by rule, (or make a final determination not to add) such substance to such list within 1 year after receiving such petition. Any petition under this paragraph shall include a showing by the petitioner that there are data on the substance adequate to support the petition. If the Administrator determines that information on the substance is not sufficient to make a determination under this paragraph, the Administrator shall use any authority available to the Administrator, under any law administered by the Administrator, to acquire such information.

"(4) Only a class II substance which is added to the list of class I substances may be removed from the list of class II substances. No substance referred to in subsection (a), including methyl chloroform, may be removed from the list of class I substances.

"(d) NEW LISTED SUBSTANCES.—In the case of any substance added to the list of class I or class II substances after publication of the initial list of such substances under this section, the Administrator may extend any schedule or compliance deadline contained in section 604 or 605 to a later date than specified in such sections if such schedule or deadline is unattainable, considering when such substance is added to the list. No extension under this subsection may extend the date for termination of production of any class I substance to a date more than 7 years after January 1 of the year after the year in which the substance is added to the list of class I substances. No extension under this subsection may extend the date for termination of production of any class II substance to a date more than 10 years after January 1 of the year after the year in which the substance is added to the list of class II substances.

"(e) OZONE-DEPLETION AND GLOBAL WARMING POTENTIAL.—Simultaneously with publication of the lists under this section and simultaneously with any addition to either of such lists, the Administrator shall assign to each listed substance a numerical value representing the substance's ozone-depletion potential. In addition, the Administrator shall publish the chlorine and bromine loading potential and the atmospheric lifetime of each listed substance. One year after enactment of the Clean Air Act Amendments of 1990 (one year after the addition of a substance to either of such lists in the case of a substance added after the publication of the

initial lists of such substances), and after notice and opportunity for public comment, the Administrator shall publish the global warming potential of each listed substance. The preceding sentence shall not be construed to be the basis of any additional regulation under this Act. In the case of the substances referred to in table 1, the ozone-depletion potential shall be as specified in table 1, unless the Administrator adjusts the substance's ozone-depletion potential based on criteria referred to in section 601(10):

"TABLE 1

Substance	Ozone-depletion potential
chlorofluorocarbon-11 (CFC-11)	1.0
chlorofluorocarbon-12 (CFC-12)	1.0
chlorofluorocarbon-13 (CFC-13)	1.0
chlorofluorocarbon-111 (CFC-111)	1.0
chlorofluorocarbon-112 (CFC-112)	1.0
chlorofluorocarbon-113 (CFC-113)	0.8
chlorofluorocarbon-114 (CFC-114)	1.0
chlorofluorocarbon-115 (CFC-115)	0.6
chlorofluorocarbon-211 (CFC-211)	1.0
chlorofluorocarbon-212 (CFC-212)	1.0
chlorofluorocarbon-213 (CFC-213)	1.0
chlorofluorocarbon-214 (CFC-214)	1.0
chlorofluorocarbon-215 (CFC-215)	1.0
chlorofluorocarbon-216 (CFC-216)	1.0
chlorofluorocarbon-217 (CFC-217)	1.0
halon-1211	3.0
halon-1301	10.0
halon-2402	6.0
carbon tetrachloride	1.1
methyl chloroform	0.1
hydrochlorofluorocarbon-22 (HCFC-22)	0.05
hydrochlorofluorocarbon-123 (HCFC-123)	0.02
hydrochlorofluorocarbon-124 (HCFC-124)	0.02
hydrochlorofluorocarbon-141(b) (HCFC-141(b))	0.1
hydrochlorofluorocarbon-142(b) (HCFC-142(b))	0.06

Where the ozone-depletion potential of a substance is specified in the Montreal Protocol, the ozone-depletion potential specified for that substance under this section shall be consistent with the Montreal Protocol.

"SEC. 603. MONITORING AND REPORTING REQUIREMENTS. 42 USC 7671b.

"(a) REGULATIONS.—Within 270 days after the enactment of the Clean Air Act Amendments of 1990, the Administrator shall amend the regulations of the Administrator in effect on such date regarding monitoring and reporting of class I and class II substances. Such amendments shall conform to the requirements of this section. The amended regulations shall include requirements with respect to the time and manner of monitoring and reporting as required under this section.

"(b) PRODUCTION, IMPORT, AND EXPORT LEVEL REPORTS.—On a quarterly basis, or such other basis (not less than annually) as determined by the Administrator, each person who produced, imported, or exported a class I or class II substance shall file a report with the Administrator setting forth the amount of the substance that such person produced, imported, and exported during the

preceding reporting period. Each such report shall be signed and attested by a responsible officer. No such report shall be required from a person after April 1 of the calendar year after such person permanently ceases production, importation, and exportation of the substance and so notifies the Administrator in writing.

"(c) BASELINE REPORTS FOR CLASS I SUBSTANCES.—Unless such information has previously been reported to the Administrator, on the date on which the first report under subsection (b) is required to be filed, each person who produced, imported, or exported a class I substance (other than a substance added to the list of class I substances after the publication of the initial list of such substances under this section) shall file a report with the Administrator setting forth the amount of such substance that such person produced, imported, and exported during the baseline year. In the case of a substance added to the list of class I substances after publication of the initial list of such substances under this section, the regulations shall require that each person who produced, imported, or exported such substance shall file a report with the Administrator within 180 days after the date on which such substance is added to the list, setting forth the amount of the substance that such person produced, imported, and exported in the baseline year.

"(d) MONITORING AND REPORTS TO CONGRESS.—(1) The Administrator shall monitor and, not less often than every 3 years following enactment of the Clean Air Act Amendments of 1990, submit a report to Congress on the production, use and consumption of class I and class II substances. Such report shall include data on domestic production, use and consumption, and an estimate of worldwide production, use and consumption of such substances. Not less frequently than every 6 years the Administrator shall report to Congress on the environmental and economic effects of any stratospheric ozone depletion.

"(2) The Administrators of the National Aeronautics and Space Administration and the National Oceanic and Atmospheric Administration shall monitor, and not less often than every 3 years following enactment of the Clean Air Act Amendments of 1990, submit a report to Congress on the current average tropospheric concentration of chlorine and bromine and on the level of stratospheric ozone depletion. Such reports shall include updated projections of—

"(A) peak chlorine loading;

"(B) the rate at which the atmospheric abundance of chlorine is projected to decrease after the year 2000; and

"(C) the date by which the atmospheric abundance of chlorine is projected to return to a level of two parts per billion.

Such updated projections shall be made on the basis of current international and domestic controls on substances covered by this title as well as on the basis of such controls supplemented by a year 2000 global phase out of all halocarbon emissions (the base case). It is the purpose of the Congress through the provisions of this section to monitor closely the production and consumption of class II substances to assure that the production and consumption of such substances will not:

"(i) increase significantly the peak chlorine loading that is projected to occur under the base case established for purposes of this section;

"(ii) reduce significantly the rate at which the atmospheric abundance of chlorine is projected to decrease under the base case; or

"(iii) delay the date by which the average atmospheric concentration of chlorine is projected under the base case to return to a level of two parts per billion.

"(e) TECHNOLOGY STATUS REPORT IN 2015.—The Administrator shall review, on a periodic basis, the progress being made in the development of alternative systems or products necessary to manufacture and operate appliances without class II substances. If the Administrator finds, after notice and opportunity for public comment, that as a result of technological development problems, the development of such alternative systems or products will not occur within the time necessary to provide for the manufacture of such equipment without such substances prior to the applicable deadlines under section 605, the Administrator shall, not later than January 1, 2015, so inform the Congress.

"(f) EMERGENCY REPORT.—If, in consultation with the Administrators of the National Aeronautics and Space Administration and the National Oceanic and Atmospheric Administration, and after notice and opportunity for public comment, the Administrator determines that the global production, consumption, and use of class II substances are projected to contribute to an atmospheric chlorine loading in excess of the base case projections by more than 5/10ths parts per billion, the Administrator shall so inform the Congress immediately. The determination referred to in the preceding sentence shall be based on the monitoring under subsection (d) and updated not less often than every 3 years.

"SEC. 604. PHASE-OUT OF PRODUCTION AND CONSUMPTION OF CLASS I SUBSTANCES. 42 USC 7671c.

"(a) PRODUCTION PHASE-OUT.—Effective on January 1 of each year specified in Table 2, it shall be unlawful for any person to produce any class I substance in an annual quantity greater than the relevant percentage specified in Table 2. The percentages in Table 2 refer to a maximum allowable production as a percentage of the quantity of the substance produced by the person concerned in the baseline year.

"TABLE 2

"Date	Carbon tetrachloride	Methyl chloroform	Other class I substances
"1991	100%	100%	85%
"1992	90%	100%	80%
"1993	80%	90%	75%
"1994	70%	85%	65%
"1995	15%	70%	50%
"1996	15%	50%	40%
"1997	15%	50%	15%
"1998	15%	50%	15%
"1999	15%	50%	15%
"2000		20%	
"2001		20%	

"(b) TERMINATION OF PRODUCTION OF CLASS I SUBSTANCES.—Effective January 1, 2000 (January 1, 2002 in the case of methyl chloro-

form), it shall be unlawful for any person to produce any amount of a class I substance.

"(c) REGULATIONS REGARDING PRODUCTION AND CONSUMPTION OF CLASS I SUBSTANCES.—The Administrator shall promulgate regulations within 10 months after the enactment of the Clean Air Act Amendments of 1990 phasing out the production of class I substances in accordance with this section and other applicable provisions of this title. The Administrator shall also promulgate regulations to insure that the consumption of class I substances in the United States is phased out and terminated in accordance with the same schedule (subject to the same exceptions and other provisions) as is applicable to the phase-out and termination of production of class I substances under this title.

"(d) EXCEPTIONS FOR ESSENTIAL USES OF METHYL CHLOROFORM, MEDICAL DEVICES, AND AVIATION SAFETY.—

"(1) ESSENTIAL USES OF METHYL CHLOROFORM.—Notwithstanding the termination of production required by subsection (b), during the period beginning on January 1, 2002, and ending on January 1, 2005, the Administrator, after notice and opportunity for public comment, may, to the extent such action is consistent with the Montreal Protocol, authorize the production of limited quantities of methyl chloroform solely for use in essential applications (such as nondestructive testing for metal fatigue and corrosion of existing airplane engines and airplane parts susceptible to metal fatigue) for which no safe and effective substitute is available. Notwithstanding this paragraph, the authority to produce methyl chloroform for use in medical devices shall be provided in accordance with paragraph (2).

"(2) MEDICAL DEVICES.—Notwithstanding the termination of production required by subsection (b), the Administrator, after notice and opportunity for public comment, shall, to the extent such action is consistent with the Montreal Protocol, authorize the production of limited quantities of class I substances solely for use in medical devices if such authorization is determined by the Commissioner, in consultation with the Administrator, to be necessary for use in medical devices.

"(3) AVIATION SAFETY.—(A) Notwithstanding the termination of production required by subsection (b), the Administrator, after notice and opportunity for public comment, may, to the extent such action is consistent with the Montreal Protocol, authorize the production of limited quantities of halon-1211 (bromochlorodifluoromethane), halon-1301 (bromotrifluoromethane), and halon-2402 (dibromotetrafluoroethane) solely for purposes of aviation safety if the Administrator of the Federal Aviation Administration, in consultation with the Administrator, determines that no safe and effective substitute has been developed and that such authorization is necessary for aviation safety purposes.

Reports.

"(B) The Administrator of the Federal Aviation Administration shall, in consultation with the Administrator, examine whether safe and effective substitutes for methyl chloroform or alternative techniques will be available for nondestructive testing for metal fatigue and corrosion of existing airplane engines and airplane parts susceptible to metal fatigue and whether an exception for such uses of methyl chloroform under this paragraph will be necessary for purposes of airline safety after January 1, 2005 and provide a report to Congress in 1998.

"(4) CAP ON CERTAIN EXCEPTIONS.—Under no circumstances may the authority set forth in paragraphs (1), (2), and (3) of subsection (d) be applied to authorize any person to produce a class I substance in annual quantities greater than 10 percent of that produced by such person during the baseline year.

"(e) DEVELOPING COUNTRIES.—

"(1) EXCEPTION.—Notwithstanding the phase-out and termination of production required under subsections (a) and (b), the Administrator, after notice and opportunity for public comment, may, consistent with the Montreal Protocol, authorize the production of limited quantities of a class I substance in excess of the amounts otherwise allowable under subsection (a) or (b), or both, solely for export to, and use in, developing countries that are Parties to the Montreal Protocol and are operating under article 5 of such Protocol. Any production authorized under this paragraph shall be solely for purposes of satisfying the basic domestic needs of such countries.

"(2) CAP ON EXCEPTION.—(A) Under no circumstances may the authority set forth in paragraph (1) be applied to authorize any person to produce a class I substance in any year for which a production percentage is specified in Table 2 of subsection (a) in an annual quantity greater than the specified percentage, plus an amount equal to 10 percent of the amount produced by such person in the baseline year.

"(B) Under no circumstances may the authority set forth in paragraph (1) be applied to authorize any person to produce a class I substance in the applicable termination year referred to in subsection (b), or in any year thereafter, in an annual quantity greater than 15 percent of the baseline quantity of such substance produced by such person.

"(C) An exception authorized under this subsection shall terminate no later than January 1, 2010 (2012 in the case of methyl chloroform).

"(f) NATIONAL SECURITY.—The President may, to the extent such action is consistent with the Montreal Protocol, issue such orders regarding production and use of CFC-114 (chlorofluorocarbon-114), halon-1211, halon-1301, and halon-2402, at any specified site or facility or on any vessel as may be necessary to protect the national security interests of the United States if the President finds that adequate substitutes are not available and that the production and use of such substance are necessary to protect such national security interest. Such orders may include, where necessary to protect such interests, an exemption from any prohibition or requirement contained in this title. The President shall notify the Congress within 30 days of the issuance of an order under this paragraph providing for any such exemption. Such notification shall include a statement of the reasons for the granting of the exemption. An exemption under this paragraph shall be for a specified period which may not exceed one year. Additional exemptions may be granted, each upon the President's issuance of a new order under this paragraph. Each such additional exemption shall be for a specified period which may not exceed one year. No exemption shall be granted under this paragraph due to lack of appropriation unless the President shall have specifically requested such appropriation as a part of the budgetary process and the Congress shall have failed to make available such requested appropriation.

"(g) FIRE SUPPRESSION AND EXPLOSION PREVENTION.—(1) Notwithstanding the production phase-out set forth in subsection (a), the Administrator, after notice and opportunity for public comment, may, to the extent such action is consistent with the Montreal Protocol, authorize the production of limited quantities of halon-1211, halon-1301, and halon-2402 in excess of the amount otherwise permitted pursuant to the schedule under subsection (a) solely for purposes of fire suppression or explosion prevention if the Administrator, in consultation with the Administrator of the United States Fire Administration, determines that no safe and effective substitute has been developed and that such authorization is necessary for fire suppression or explosion prevention purposes. The Administrator shall not authorize production under this paragraph for purposes of fire safety or explosion prevention training or testing of fire suppression or explosion prevention equipment. In no event shall the Administrator grant an exception under this paragraph that permits production after December 31, 1999.

"(2) The Administrator shall periodically monitor and assess the status of efforts to obtain substitutes for the substances referred to in paragraph (1) for purposes of fire suppression or explosion prevention and the probability of such substitutes being available by December 31, 1999. The Administrator, as part of such assessment, shall consider any relevant assessments under the Montreal Protocol and the actions of the Parties pursuant to Article 2B of the Montreal Protocol in identifying essential uses and in permitting a level of production or consumption that is necessary to satisfy such uses for which no adequate alternatives are available after December 31, 1999. The Administrator shall report to Congress the results of such assessment in 1994 and again in 1998.

Reports.

"(3) Notwithstanding the termination of production set forth in subsection (b), the Administrator, after notice and opportunity for public comment, may, to the extent consistent with the Montreal Protocol, authorize the production of limited quantities of halon-1211, halon-1301, and halon-2402 in the period after December 31, 1999, and before December 31, 2004, solely for purposes of fire suppression or explosion prevention in association with domestic production of crude oil and natural gas energy supplies on the North Slope of Alaska, if the Administrator, in consultation with the Administrator of the United States Fire Administration, determines that no safe and effective substitute has been developed and that such authorization is necessary for fire suppression and explosion prevention purposes. The Administrator shall not authorize production under the paragraph for purposes of fire safety or explosion prevention training or testing of fire suppression or explosion prevention equipment. In no event shall the Administrator authorize under this paragraph any person to produce any such halon in an amount greater than 3 percent of that produced by such person during the baseline year.

42 USC 7671d.

"SEC. 605. PHASE-OUT OF PRODUCTION AND CONSUMPTION OF CLASS II SUBSTANCES.

"(a) RESTRICTION OF USE OF CLASS II SUBSTANCES.—Effective January 1, 2015, it shall be unlawful for any person to introduce into interstate commerce or use any class II substance unless such substance—

"(1) has been used, recovered, and recycled;

"(2) is used and entirely consumed (except for trace quantities) in the production of other chemicals; or

"(3) is used as a refrigerant in appliances manufactured prior to January 1, 2020.

As used in this subsection, the term 'refrigerant' means any class II substance used for heat transfer in a refrigerating system.

"(b) PRODUCTION PHASE-OUT.—(1) Effective January 1, 2015, it shall be unlawful for any person to produce any class II substance in an annual quantity greater than the quantity of such substance produced by such person during the baseline year.

"(2) Effective January 1, 2030, it shall be unlawful for any person to produce any class II substance.

"(c) REGULATIONS REGARDING PRODUCTION AND CONSUMPTION OF CLASS II SUBSTANCES.—By December 31, 1999, the Administrator shall promulgate regulations phasing out the production, and restricting the use, of class II substances in accordance with this section, subject to any acceleration of the phase-out of production under section 606. The Administrator shall also promulgate regulations to insure that the consumption of class II substances in the United States is phased out and terminated in accordance with the same schedule (subject to the same exceptions and other provisions) as is applicable to the phase-out and termination of production of class II substances under this title.

"(d) EXCEPTIONS.—

"(1) MEDICAL DEVICES.—

"(A) IN GENERAL.—Notwithstanding the termination of production required under subsection (b)(2) and the restriction on use referred to in subsection (a), the Administrator, after notice and opportunity for public comment, shall, to the extent such action is consistent with the Montreal Protocol, authorize the production and use of limited quantities of class II substances solely for purposes of use in medical devices if such authorization is determined by the Commissioner, in consultation with the Administrator, to be necessary for use in medical devices.

"(B) CAP ON EXCEPTION.—Under no circumstances may the authority set forth in subparagraph (A) be applied to authorize any person to produce a class II substance in annual quantities greater than 10 percent of that produced by such person during the baseline year.

"(2) DEVELOPING COUNTRIES.—

"(A) IN GENERAL.—Notwithstanding the provisions of subsection (a) or (b), the Administrator, after notice and opportunity for public comment, may authorize the production of limited quantities of a class II substance in excess of the quantities otherwise permitted under such provisions solely for export to and use in developing countries that are Parties to the Montreal Protocol, as determined by the Administrator. Any production authorized under this subsection shall be solely for purposes of satisfying the basic domestic needs of such countries.

"(B) CAP ON EXCEPTION.—(i) Under no circumstances may the authority set forth in subparagraph (A) be applied to authorize any person to produce a class II substance in any year following the effective date of subsection (b)(1) and before the year 2030 in annual quantities greater than 110

percent of the quantity of such substance produced by such person during the baseline year.

"(ii) Under no circumstances may the authority set forth in subparagraph (A) be applied to authorize any person to produce a class II substance in the year 2030, or any year thereafter, in an annual quantity greater than 15 percent of the quantity of such substance produced by such person during the baseline year.

"(iii) Each exception authorized under this paragraph shall terminate no later than January 1, 2040.

42 USC 7671e.

"SEC. 606. ACCELERATED SCHEDULE.

Regulations.

"(a) IN GENERAL.—The Administrator shall promulgate regulations, after notice and opportunity for public comment, which establish a schedule for phasing out the production and consumption of class I and class II substances (or use of class II substances) that is more stringent than set forth in section 604 or 605, or both, if—

"(1) based on an assessment of credible current scientific information (including any assessment under the Montreal Protocol) regarding harmful effects on the stratospheric ozone layer associated with a class I or class II substance, the Administrator determines that such more stringent schedule may be necessary to protect human health and the environment against such effects,

"(2) based on the availability of substitutes for listed substances, the Administrator determines that such more stringent schedule is practicable, taking into account technological achievability, safety, and other relevant factors, or

"(3) the Montreal Protocol is modified to include a schedule to control or reduce production, consumption, or use of any substance more rapidly than the applicable schedule under this title.

In making any determination under paragraphs (1) and (2), the Administrator shall consider the status of the period remaining under the applicable schedule under this title.

"(b) PETITION.—Any person may petition the Administrator to promulgate regulations under this section. The Administrator shall grant or deny the petition within 180 days after receipt of any such petition. If the Administrator denies the petition, the Administrator shall publish an explanation of why the petition was denied. If the Administrator grants such petition, such final regulations shall be promulgated within 1 year. Any petition under this subsection shall include a showing by the petitioner that there are data adequate to support the petition. If the Administrator determines that information is not sufficient to make a determination under this subsection, the Administrator shall use any authority available to the Administrator, under any law administered by the Administrator, to acquire such information.

42 USC 7671f.

"SEC. 607. EXCHANGE AUTHORITY.

"(a) TRANSFERS.—The Administrator shall, within 10 months after the enactment of the Clean Air Act Amendments of 1990, promulgate rules under this title providing for the issuance of allowances for the production of class I and II substances in accordance with the requirements of this title and governing the transfer of such allowances. Such rules shall insure that the transactions under the authority of this section will result in greater total reductions in the

production in each year of class I and class II substances than would occur in that year in the absence of such transactions.

"(b) INTERPOLLUTANT TRANSFERS.—(1) The rules under this section shall permit a production allowance for a substance for any year to be transferred for a production allowance for another substance for the same year on an ozone depletion weighted basis.

"(2) Allowances for substances in each group of class I substances (as listed pursuant to section 602) may only be transferred for allowances for other substances in the same Group.

"(3) The Administrator shall, as appropriate, establish groups of class II substances for trading purposes and assign class II substances to such groups. In the case of class II substances, allowances may only be transferred for allowances for other class II substances that are in the same Group.

"(c) TRADES WITH OTHER PERSONS.—The rules under this section shall permit 2 or more persons to transfer production allowances (including interpollutant transfers which meet the requirements of subsections (a) and (b)) if the transferor of such allowances will be subject, under such rules, to an enforceable and quantifiable reduction in annual production which—

"(1) exceeds the reduction otherwise applicable to the transferor under this title,

"(2) exceeds the production allowances transferred to the transferee, and

"(3) would not have occurred in the absence of such transaction.

"(d) CONSUMPTION.—The rules under this section shall also provide for the issuance of consumption allowances in accordance with the requirements of this title and for the trading of such allowances in the same manner as is applicable under this section to the trading of production allowances under this section.

"SEC. 608. NATIONAL RECYCLING AND EMISSION REDUCTION PROGRAM. 42 USC 7671g.

"(a) IN GENERAL.—(1) The Administrator shall, by not later than January 1, 1992, promulgate regulations establishing standards and requirements regarding the use and disposal of class I substances during the service, repair, or disposal of appliances and industrial process refrigeration. Such standards and requirements shall become effective not later than July 1, 1992. Regulations.

"(2) The Administrator shall, within 4 years after the enactment of the Clean Air Act Amendments of 1990, promulgate regulations establishing standards and requirements regarding use and disposal of class I and II substances not covered by paragraph (1), including the use and disposal of class II substances during service, repair, or disposal of appliances and industrial process refrigeration. Such standards and requirements shall become effective not later than 12 months after promulgation of the regulations.

"(3) The regulations under this subsection shall include requirements that—

"(A) reduce the use and emission of such substances to the lowest achievable level, and

"(B) maximize the recapture and recycling of such substances.

Such regulations may include requirements to use alternative substances (including substances which are not class I or class II substances) or to minimize use of class I or class II substances, or to promote the use of safe alternatives pursuant to section 612 or any combination of the foregoing.

"(b) SAFE DISPOSAL.—The regulations under subsection (a) shall establish standards and requirements for the safe disposal of class I and II substances. Such regulations shall include each of the following—

"(1) Requirements that class I or class II substances contained in bulk in appliances, machines or other goods shall be removed from each such appliance, machine or other good prior to the disposal of such items or their delivery for recycling.

"(2) Requirements that any appliance, machine or other good containing a class I or class II substance in bulk shall not be manufactured, sold, or distributed in interstate commerce or offered for sale or distribution in interstate commerce unless it is equipped with a servicing aperture or an equally effective design feature which will facilitate the recapture of such substance during service and repair or disposal of such item.

"(3) Requirements that any product in which a class I or class II substance is incorporated so as to constitute an inherent element of such product shall be disposed of in a manner that reduces, to the maximum extent practicable, the release of such substance into the environment. If the Administrator determines that the application of this paragraph to any product would result in producing only insignificant environmental benefits, the Administrator shall include in such regulations an exception for such product.

"(c) PROHIBITIONS.—(1) Effective July 1, 1992, it shall be unlawful for any person, in the course of maintaining, servicing, repairing, or disposing of an appliance or industrial process refrigeration, to knowingly vent or otherwise knowingly release or dispose of any class I or class II substance used as a refrigerant in such appliance (or industrial process refrigeration) in a manner which permits such substance to enter the environment. De minimis releases associated with good faith attempts to recapture and recycle or safely dispose of any such substance shall not be subject to the prohibition set forth in the preceding sentence.

"(2) Effective 5 years after the enactment of the Clean Air Act Amendments of 1990, paragraph (1) shall also apply to the venting, release, or disposal of any substitute substance for a class I or class II substance by any person maintaining, servicing, repairing, or disposing of an appliance or industrial process refrigeration which contains and uses as a refrigerant any such substance, unless the Administrator determines that venting, releasing, or disposing of such substance does not pose a threat to the environment. For purposes of this paragraph, the term 'appliance' includes any device which contains and uses as a refrigerant a substitute substance and which is used for household or commercial purposes, including any air conditioner, refrigerator, chiller, or freezer.

42 USC 7671h.

"SEC. 609. SERVICING OF MOTOR VEHICLE AIR CONDITIONERS.

"(a) REGULATIONS.—Within 1 year after the enactment of the Clean Air Act Amendments of 1990, the Administrator shall promulgate regulations in accordance with this section establishing standards and requirements regarding the servicing of motor vehicle air conditioners.

"(b) DEFINITIONS.—As used in this section—

"(1) The term 'refrigerant' means any class I or class II substance used in a motor vehicle air conditioner. Effective 5 years after the enactment of the Clean Air Act Amendments of

1990, the term 'refrigerant' shall also include any substitute substance.

"(2)(A) The term 'approved refrigerant recycling equipment' means equipment certified by the Administrator (or an independent standards testing organization approved by the Administrator) to meet the standards established by the Administrator and applicable to equipment for the extraction and reclamation of refrigerant from motor vehicle air conditioners. Such standards shall, at a minimum, be at least as stringent as the standards of the Society of Automotive Engineers in effect as of the date of the enactment of the Clean Air Act Amendments of 1990 and applicable to such equipment (SAE standard J-1990).

"(B) Equipment purchased before the proposal of regulations under this section shall be considered certified if it is substantially identical to equipment certified as provided in subparagraph (A).

"(3) The term 'properly using' means, with respect to approved refrigerant recycling equipment, using such equipment in conformity with standards established by the Administrator and applicable to the use of such equipment. Such standards shall, at a minimum, be at least as stringent as the standards of the Society of Automotive Engineers in effect as of the date of the enactment of the Clean Air Act Amendments of 1990 and applicable to the use of such equipment (SAE standard J-1989).

"(4) The term 'properly trained and certified' means training and certification in the proper use of approved refrigerant recycling equipment for motor vehicle air conditioners in conformity with standards established by the Administrator and applicable to the performance of service on motor vehicle air conditioners. Such standards shall, at a minimum, be at least as stringent as specified, as of the date of the enactment of the Clean Air Act Amendments of 1990, in SAE standard J-1989 under the certification program of the National Institute for Automotive Service Excellence (ASE) or under a similar program such as the training and certification program of the Mobile Air Conditioning Society (MACS).

"(c) SERVICING MOTOR VEHICLE AIR CONDITIONERS.—Effective January 1, 1992, no person repairing or servicing motor vehicles for consideration may perform any service on a motor vehicle air conditioner involving the refrigerant for such air conditioner without properly using approved refrigerant recycling equipment and no such person may perform such service unless such person has been properly trained and certified. The requirements of the previous sentence shall not apply until January 1, 1993 in the case of a person repairing or servicing motor vehicles for consideration at an entity which performed service on fewer than 100 motor vehicle air conditioners during calendar year 1990 and if such person so certifies, pursuant to subsection (d)(2), to the Administrator by January 1, 1992.

"(d) CERTIFICATION.—(1) Effective 2 years after the enactment of the Clean Air Act Amendments of 1990, each person performing service on motor vehicle air conditioners for consideration shall certify to the Administrator either—

"(A) that such person has acquired, and is properly using, approved refrigerant recycling equipment in service on motor

vehicle air conditioners involving refrigerant and that each individual authorized by such person to perform such service is properly trained and certified; or

"(B) that such person is performing such service at an entity which serviced fewer than 100 motor vehicle air conditioners in 1991.

"(2) Effective January 1, 1993, each person who certified under paragraph (1)(B) shall submit a certification under paragraph (1)(A).

"(3) Each certification under this subsection shall contain the name and address of the person certifying under this subsection and the serial number of each unit of approved recycling equipment acquired by such person and shall be signed and attested by the owner or another responsible officer. Certifications under paragraph (1)(A) may be made by submitting the required information to the Administrator on a standard form provided by the manufacturer of certified refrigerant recycling equipment.

"(e) SMALL CONTAINERS OF CLASS I OR CLASS II SUBSTANCES.—Effective 2 years after the date of the enactment of the Clean Air Act Amendments of 1990, it shall be unlawful for any person to sell or distribute, or offer for sale or distribution, in interstate commerce to any person (other than a person performing service for consideration on motor vehicle air-conditioning systems in compliance with this section) any class I or class II substance that is suitable for use as a refrigerant in a motor vehicle air-conditioning system and that is in a container which contains less than 20 pounds of such refrigerant.

42 USC 7671i.

"SEC. 610. NONESSENTIAL PRODUCTS CONTAINING CHLOROFLUOROCARBONS.

"(a) REGULATIONS.—The Administrator shall promulgate regulations to carry out the requirements of this section within 1 year after the enactment of the Clean Air Act Amendments of 1990.

"(b) NONESSENTIAL PRODUCTS.—The regulations under this section shall identify nonessential products that release class I substances into the environment (including any release occurring during manufacture, use, storage, or disposal) and prohibit any person from selling or distributing any such product, or offering any such product for sale or distribution, in interstate commerce. At a minimum, such prohibition shall apply to—

"(1) chlorofluorocarbon-propelled plastic party streamers and noise horns,

"(2) chlorofluorocarbon-containing cleaning fluids for noncommercial electronic and photographic equipment, and

"(3) other consumer products that are determined by the Administrator—

"(A) to release class I substances into the environment (including any release occurring during manufacture, use, storage, or disposal), and

"(B) to be nonessential.

In determining whether a product is nonessential, the Administrator shall consider the purpose or intended use of the product, the technological availability of substitutes for such product and for such class I substance, safety, health, and other relevant factors.

"(c) EFFECTIVE DATE.—Effective 24 months after the enactment of the Clean Air Act Amendments of 1990, it shall be unlawful for any person to sell or distribute, or offer for sale or distribution, in

interstate commerce any nonessential product to which regulations under subsection (a) implementing subsection (b) are applicable.

"(d) OTHER PRODUCTS.—(1) Effective January 1, 1994, it shall be unlawful for any person to sell or distribute, or offer for sale or distribution, in interstate commerce—

"(A) any aerosol product or other pressurized dispenser which contains a class II substance; or

"(B) any plastic foam product which contains, or is manufactured with, a class II substance.

"(2) The Administrator is authorized to grant exceptions from the prohibition under subparagraph (A) of paragraph (1) where—

"(A) the use of the aerosol product or pressurized dispenser is determined by the Administrator to be essential as a result of flammability or worker safety concerns, and

"(B) the only available alternative to use of a class II substance is use of a class I substance which legally could be substituted for such class II substance.

"(3) Subparagraph (B) of paragraph (1) shall not apply to—

"(A) a foam insulation product, or

"(B) an integral skin, rigid, or semi-rigid foam utilized to provide for motor vehicle safety in accordance with Federal Motor Vehicle Safety Standards where no adequate substitute substance (other than a class I or class II substance) is practicable for effectively meeting such Standards.

"(e) MEDICAL DEVICES.—Nothing in this section shall apply to any medical device as defined in section 601(8).

"SEC. 611. LABELING. 42 USC 7671j.

"(a) REGULATIONS.—The Administrator shall promulgate regulations to implement the labeling requirements of this section within 18 months after enactment of the Clean Air Act Amendments of 1990, after notice and opportunity for public comment.

"(b) CONTAINERS CONTAINING CLASS I OR CLASS II SUBSTANCES AND PRODUCTS CONTAINING CLASS I SUBSTANCES.—Effective 30 months after the enactment of the Clean Air Act Amendments of 1990, no container in which a class I or class II substance is stored or transported, and no product containing a class I substance, shall be introduced into interstate commerce unless it bears a clearly legible and conspicuous label stating:

" 'Warning: Contains [insert name of substance], a substance which harms public health and environment by destroying ozone in the upper atmosphere'.

"(c) PRODUCTS CONTAINING CLASS II SUBSTANCES.—(1) After 30 months after the enactment of the Clean Air Act Amendments of 1990, and before January 1, 2015, no product containing a class II substance shall be introduced into interstate commerce unless it bears the label referred to in subsection (b) if the Administrator determines, after notice and opportunity for public comment, that there are substitute products or manufacturing processes (A) that do not rely on the use of such class II substance, (B) that reduce the overall risk to human health and the environment, and (C) that are currently or potentially available.

"(2) Effective January 1, 2015, the requirements of subsection (b) shall apply to all products containing a class II substance.

"(d) PRODUCTS MANUFACTURED WITH CLASS I AND CLASS II SUBSTANCES.—(1) In the case of a class II substance, after 30 months after the enactment of the Clean Air Act Amendments of 1990, and

before January 1, 2015, if the Administrator, after notice and opportunity for public comment, makes the determination referred to in subsection (c) with respect to a product manufactured with a process that uses such class II substance, no such product shall be introduced into interstate commerce unless it bears a clearly legible and conspicuous label stating:

" 'Warning: Manufactured with [insert name of substance], a substance which harms public health and environment by destroying ozone in the upper atmosphere'

"(2) In the case of a class I substance, effective 30 months after the enactment of the Clean Air Act Amendments of 1990, and before January 1, 2015, the labeling requirements of this subsection shall apply to all products manufactured with a process that uses such class I substance unless the Administrator determines that there are no substitute products or manufacturing processes that (A) do not rely on the use of such class I substance, (B) reduce the overall risk to human health and the environment, and (C) are currently or potentially available.

"(e) PETITIONS.—(1) Any person may, at any time after 18 months after the enactment of the Clean Air Act Amendments of 1990, petition the Administrator to apply the requirements of this section to a product containing a class II substance or a product manufactured with a class I or II substance which is not otherwise subject to such requirements. Within 180 days after receiving such petition, the Administrator shall, pursuant to the criteria set forth in subsection (c), either propose to apply the requirements of this section to such product or publish an explanation of the petition denial. If the Administrator proposes to apply such requirements to such product, the Administrator shall, by rule, render a final determination pursuant to such criteria within 1 year after receiving such petition.

"(2) Any petition under this paragaph shall include a showing by the petitioner that there are data on the product adequate to support the petition.

"(3) If the Administrator determines that information on the product is not sufficient to make the required determination the Administrator shall use any authority available to the Administrator under any law administered by the Administrator to acquire such information.

"(4) In the case of a product determined by the Administrator, upon petition or on the Administrator's own motion, to be subject to the requirements of this section, the Administrator shall establish an effective date for such requirements. The effective date shall be 1 year after such determination or 30 months after the enactment of the Clean Air Act Amendments of 1990, whichever is later.

"(5) Effective January 1, 2015, the labeling requirements of this subsection shall apply to all products manufactured with a process that uses a class I or class II substance.

"(f) RELATIONSHIP TO OTHER LAW.—(1) The labeling requirements of this section shall not constitute, in whole or part, a defense to liability or a cause for reduction in damages in any suit, whether civil or criminal, brought under any law, whether Federal or State, other than a suit for failure to comply with the labeling requirements of this section.

"(2) No other approval of such label by the Administrator under any other law administered by the Administrator shall be required with respect to the labeling requirements of this section.

"SEC. 612. SAFE ALTERNATIVES POLICY. 42 USC 7671k.

"(a) POLICY.—To the maximum extent practicable, class I and class II substances shall be replaced by chemicals, product substitutes, or alternative manufacturing processes that reduce overall risks to human health and the environment.

"(b) REVIEWS AND REPORTS.—The Administrator shall—

"(1) in consultation and coordination with interested members of the public and the heads of relevant Federal agencies and departments, recommend Federal research programs and other activities to assist in identifying alternatives to the use of class I and class II substances as refrigerants, solvents, fire retardants, foam blowing agents, and other commercial applications and in achieving a transition to such alternatives, and, where appropriate, seek to maximize the use of Federal research facilities and resources to assist users of class I and class II substances in identifying and developing alternatives to the use of such substances as refrigerants, solvents, fire retardants, foam blowing agents, and other commercial applications;

"(2) examine in consultation and coordination with the Secretary of Defense and the heads of other relevant Federal agencies and departments, including the General Services Administration, Federal procurement practices with respect to class I and class II substances and recommend measures to promote the transition by the Federal Government, as expeditiously as possible, to the use of safe substitutes;

"(3) specify initiatives, including appropriate intergovernmental, international, and commercial information and technology transfers, to promote the development and use of safe substitutes for class I and class II substances, including alternative chemicals, product substitutes, and alternative manufacturing processes; and

"(4) maintain a public clearinghouse of alternative chemicals, product substitutes, and alternative manufacturing processes that are available for products and manufacturing processes which use class I and class II substances.

"(c) ALTERNATIVES FOR CLASS I OR II SUBSTANCES.—Within 2 years after enactment of the Clean Air Act Amendments of 1990, the Administrator shall promulgate rules under this section providing that it shall be unlawful to replace any class I or class II substance with any substitute substance which the Administrator determines may present adverse effects to human health or the environment, where the Administrator has identified an alternative to such replacement that—

"(1) reduces the overall risk to human health and the environment; and

"(2) is currently or potentially available.

The Administrator shall publish a list of (A) the substitutes prohibited under this subsection for specific uses and (B) the safe alternatives identified under this subsection for specific uses.

"(d) RIGHT TO PETITION.—Any person may petition the Administrator to add a substance to the lists under subsection (c) or to remove a substance from either of such lists. The Administrator shall grant or deny the petition within 90 days after receipt of any such petition. If the Administrator denies the petition, the Administrator shall publish an explanation of why the petition was denied. If the Administrator grants such petition the Administrator shall

publish such revised list within 6 months thereafter. Any petition under this subsection shall include a showing by the petitioner that there are data on the substance adequate to support the petition. If the Administrator determines that information on the substance is not sufficient to make a determination under this subsection, the Administrator shall use any authority available to the Administrator, under any law administered by the Administrator, to acquire such information.

"(e) STUDIES AND NOTIFICATION.—The Administrator shall require any person who produces a chemical substitute for a class I substance to provide the Administrator with such person's unpublished health and safety studies on such substitute and require producers to notify the Administrator not less than 90 days before new or existing chemicals are introduced into interstate commerce for significant new uses as substitutes for a class I substance. This subsection shall be subject to section 114(c).

42 USC 7671*l*.

"SEC. 613. FEDERAL PROCUREMENT.

Regulations.

"Not later than 18 months after the enactment of the Clean Air Act Amendments of 1990, the Administrator, in consultation with the Administrator of the General Services Administration and the Secretary of Defense, shall promulgate regulations requiring each department, agency, and instrumentality of the United States to conform its procurement regulations to the policies and requirements of this title and to maximize the substitution of safe alternatives identified under section 612 for class I and class II substances. Not later than 30 months after the enactment of the Clean Air Act Amendments of 1990, each department, agency, and instrumentality of the United States shall so conform its procurement regulations and certify to the President that its regulations have been modified in accordance with this section.

42 USC 7671m.

"SEC. 614. RELATIONSHIP TO OTHER LAWS.

"(a) STATE LAWS.—Notwithstanding section 116, during the 2-year period beginning on the enactment of the Clean Air Act Amendments of 1990, no State or local government may enforce any requirement concerning the design of any new or recalled appliance for the purpose of protecting the stratospheric ozone layer.

"(b) MONTREAL PROTOCOL.—This title as added by the Clean Air Act Amendments of 1990 shall be construed, interpreted, and applied as a supplement to the terms and conditions of the Montreal Protocol, as provided in Article 2, paragraph 11 thereof, and shall not be construed, interpreted, or applied to abrogate the responsibilities or obligations of the United States to implement fully the provisions of the Montreal Protocol. In the case of conflict between any provision of this title and any provision of the Montreal Protocol, the more stringent provision shall govern. Nothing in this title shall be construed, interpreted, or applied to affect the authority or responsibility of the Administrator to implement Article 4 of the Montreal Protocol with other appropriate agencies.

President.

"(c) TECHNOLOGY EXPORT AND OVERSEAS INVESTMENT.—Upon enactment of this title, the President shall—

"(1) prohibit the export of technologies used to produce a class I substance;

"(2) prohibit direct or indirect investments by any person in facilities designed to produce a class I or class II substance in nations that are not parties to the Montreal Protocol; and

"(3) direct that no agency of the government provide bilateral or multilateral subsidies, aids, credits, guarantees, or insurance programs, for the purpose of producing any class I substance.

"SEC. 615. AUTHORITY OF ADMINISTRATOR. 42 USC 7671n.

"If, in the Administrator's judgment, any substance, practice, process, or activity may reasonably be anticipated to affect the stratosphere, especially ozone in the stratosphere, and such effect may reasonably be anticipated to endanger public health or welfare, the Administrator shall promptly promulgate regulations respecting the control of such substance, practice, process, or activity, and shall submit notice of the proposal and promulgation of such regulation to the Congress. Regulations.

"SEC. 616. TRANSFERS AMONG PARTIES TO MONTREAL PROTOCOL. 42 USC 7671o.

"(a) IN GENERAL.—Consistent with the Montreal Protocol, the United States may engage in transfers with other Parties to the Protocol under the following conditions:

"(1) The United States may transfer production allowances to another Party if, at the time of such transfer, the Administrator establishes revised production limits for the United States such that the aggregate national United States production permitted under the revised production limits equals the lesser of (A) the maximum production level permitted for the substance or substances concerned in the transfer year under the Protocol minus the production allowances transferred, (B) the maximum production level permitted for the substance or substances concerned in the transfer year under applicable domestic law minus the production allowances transferred, or (C) the average of the actual national production level of the substance or substances concerned for the 3 years prior to the transfer minus the production allowances transferred.

"(2) The United States may acquire production allowances from another Party if, at the time of such transfer, the Administrator finds that the other Party has revised its domestic production limits in the same manner as provided with respect to transfers by the United States in subsection (a).

"(b) EFFECT OF TRANSFERS ON PRODUCTION LIMITS.—The Administrator is authorized to reduce the production limits established under this Act as required as a prerequisite to transfers under paragraph (1) of subsection (a) or to increase production limits established under this Act to reflect production allowances acquired under a transfer under paragraph (2) of subsection (a).

"(c) REGULATIONS.—The Administrator shall promulgate, within 2 years after the date of enactment of the Clean Air Act Amendments of 1990, regulations to implement this section.

"(d) DEFINITION.—In the case of the United States, the term 'applicable domestic law' means this Act.

"SEC. 617. INTERNATIONAL COOPERATION. 42 USC 7671p.

"(a) IN GENERAL.—The President shall undertake to enter into international agreements to foster cooperative research which complements studies and research authorized by this title, and to develop standards and regulations which protect the stratosphere consistent with regulations applicable within the United States. For these purposes the President through the Secretary of State and the Assistant Secretary of State for Oceans and International Environ- President. Contracts. Regulations. Treaties. Reports.

mental and Scientific Affairs, shall negotiate multilateral treaties, conventions, resolutions, or other agreements, and formulate, present, or support proposals at the United Nations and other appropriate international forums and shall report to the Congress periodically on efforts to arrive at such agreements.

"(b) ASSISTANCE TO DEVELOPING COUNTRIES.—The Administrator, in consultation with the Secretary of State, shall support global participation in the Montreal Protocol by providing technical and financial assistance to developing countries that are Parties to the Montreal Protocol and operating under article 5 of the Protocol. There are authorized to be appropriated not more than $30,000,000 to carry out this section in fiscal years 1991, 1992 and 1993 and such sums as may be necessary in fiscal years 1994 and 1995. If China and India become Parties to the Montreal Protocol, there are authorized to be appropriated not more than an additional $30,000,000 to carry out this section in fiscal years 1991, 1992, and 1993.

42 USC 7671q.

"SEC. 618. MISCELLANEOUS PROVISIONS.

"For purposes of section 116, requirements concerning the areas addressed by this title for the protection of the stratosphere against ozone layer depletion shall be treated as requirements for the control and abatement of air pollution. For purposes of section 118, the requirements of this title and corresponding State, interstate, and local requirements, administrative authority, and process, and sanctions respecting the protection of the stratospheric ozone layer shall be treated as requirements for the control and abatement of air pollution within the meaning of section 118.".

42 USC 7671b.

SEC. 603. METHANE STUDIES.

Reports.

(a) ECONOMICALLY JUSTIFIED ACTIONS.—Not later than 2 years after enactment of this Act, the Administrator shall prepare and submit a report to the Congress that identifies activities, substances, processes, or combinations thereof that could reduce methane emissions and that are economically and technologically justified with and without consideration of environmental benefit.

Reports.

(b) DOMESTIC METHANE SOURCE INVENTORY AND CONTROL.—Not later than 2 years after the enactment of this Act, the Administrator, in consultation and coordination with the Secretary of Energy and the Secretary of Agriculture, shall prepare and submit to the Congress reports on each of the following:

(1) Methane emissions associated with natural gas extraction, transportation, distribution, storage, and use. Such report shall include an inventory of methane emissions associated with such activities within the United States. Such emissions include, but are not limited to, accidental and intentional releases from natural gas and oil wells, pipelines, processing facilities, and gas burners. The report shall also include an inventory of methane generation with such activities.

(2) Methane emissions associated with coal extraction, transportation, distribution, storage, and use. Such report shall include an inventory of methane emissions associated with such activities within the United States. Such emissions include, but are not limited to, accidental and intentional releases from mining shafts, degasification wells, gas recovery wells and equipment, and from the processing and use of coal. The report shall also include an inventory of methane generation with such activities.

(3) Methane emissions associated with management of solid waste. Such report shall include an inventory of methane emissions associated with all forms of waste management in the United States, including storage, treatment, and disposal.

(4) Methane emissions associated with agriculture. Such report shall include an inventory of methane emissions associated with rice and livestock production in the United States.

(5) Methane emissions associated with biomass burning. Such report shall include an inventory of methane emissions associated with the intentional burning of agricultural wastes, wood, grasslands, and forests.

(6) Other methane emissions associated with human activities. Such report shall identify and inventory other domestic sources of methane emissions that are deemed by the Administrator and other such agencies to be significant.

(c) INTERNATIONAL STUDIES.—

(1) METHANE EMISSIONS.—Not later than 2 years after the enactment of this Act, the Administrator shall prepare and submit to the Congress a report on methane emissions from countries other than the United States. Such report shall include inventories of methane emissions associated with the activities listed in subsection (b). Reports.

(2) PREVENTING INCREASES IN METHANE CONCENTRATIONS.—Not later than 2 years after the enactment of this Act, the Administrator shall prepare and submit to the Congress a report that analyzes the potential for preventing an increase in atmospheric concentrations of methane from activities and sources in other countries. Such report shall identify and evaluate the technical options for reducing methane emission from each of the activities listed in subsection (b), as well as other activities or sources that are deemed by the Administrator in consultation with other relevant Federal agencies and departments to be significant and shall include an evaluation of costs. The report shall identify the emissions reductions that would need to be achieved to prevent increasing atmospheric concentrations of methane. The report shall also identify technology transfer programs that could promote methane emissions reductions in lesser developed countries. Reports.

(d) NATURAL SOURCES.—Not later than 2 years after the enactment of this Act, the Administrator shall prepare and submit to the Congress a report on— Reports.

(1) methane emissions from biogenic sources such as (A) tropical, temperate, and subarctic forests, (B) tundra, and (C) freshwater and saltwater wetlands; and

(2) the changes in methane emissions from biogenic sources that may occur as a result of potential increases in temperatures and atmospheric concentrations of carbon dioxide.

(e) STUDY OF MEASURES TO LIMIT GROWTH IN METHANE CONCENTRATIONS.—Not later than 2 years after the completion of the studies in subsections (b), (c), and (d), the Administrator shall prepare and submit to the Congress a report that presents options outlining measures that could be implemented to stop or reduce the growth in atmospheric concentrations of methane from sources within the United States referred to in paragraphs (1) through (6) of subsection (b). This study shall identify and evaluate the technical options for reducing methane emissions from each of the activities listed in subsection (b), as well as other activities or sources deemed Reports.

by such agencies to be significant, and shall include an evaluation of costs, technology, safety, energy, and other factors. The study shall be based on the other studies under this section. The study shall also identify programs of the United States and international lending agencies that could be used to induce lesser developed countries to undertake measures that will reduce methane emissions and the resource needs of such programs.

(f) INFORMATION GATHERING.—In carrying out the studies under this section, the provisions and requirements of section 114 of the Clean Air Act shall be available for purposes of obtaining information to carry out such studies.

(g) CONSULTATION AND COORDINATION.—In preparing the studies under this section the Administrator shall consult and coordinate with the Secretary of Energy, the Administrators of the National Aeronautics and Space Administration and the National Oceanic and Atmospheric Administration, and the heads of other relevant Federal agencies and departments. In the case of the studies under subsections (a), (b), and (e), such consultation and coordination shall include the Secretary of Agriculture.

TITLE VII—PROVISIONS RELATING TO ENFORCEMENT

Sec. 701. Section 113 enforcement.
Sec. 702. Compliance certification.
Sec. 703. Administrative enforcement subpoenas.
Sec. 704. Emergency orders.
Sec. 705. Contractor listings.
Sec. 706. Judicial review pending reconsideration of regulation.
Sec. 707. Citizen suits.
Sec. 708. Enhanced implementation and enforcement of new source review requirements.
Sec. 709. Movable stationary sources.
Sec. 710. Enforcement of new titles of the Act.
Sec. 711. Savings provisions and effective dates.

SEC. 701. SECTION 113 ENFORCEMENT.

42 USC 7413.

Section 113 of the Clean Air Act is amended to read as follows:

"SEC. 113. FEDERAL ENFORCEMENT.

"(a) IN GENERAL.—

"(1) ORDER TO COMPLY WITH SIP.—Whenever, on the basis of any information available to the Administrator, the Administrator finds that any person has violated or is in violation of any requirement or prohibition of an applicable implementation plan or permit, the Administrator shall notify the person and the State in which the plan applies of such finding. At any time after the expiration of 30 days following the date on which such notice of a violation is issued, the Administrator may, without regard to the period of violation (subject to section 2462 of title 28 of the United States Code)—

"(A) issue an order requiring such person to comply with the requirements or prohibitions of such plan or permit,

"(B) issue an administrative penalty order in accordance with subsection (d), or

"(C) bring a civil action in accordance with subsection (b).

"(2) STATE FAILURE TO ENFORCE SIP OR PERMIT PROGRAM.—Whenever, on the basis of information available to the Adminis-

trator, the Administrator finds that violations of an applicable implementation plan or an approved permit program under title V are so widespread that such violations appear to result from a failure of the State in which the plan or permit program applies to enforce the plan or permit program effectively, the Administrator shall so notify the State. In the case of a permit program, the notice shall be made in accordance with title V. If the Administrator finds such failure extends beyond the 30th day after such notice (90 days in the case of such permit program), the Administrator shall give public notice of such finding. During the period beginning with such public notice and ending when such State satisfies the Administrator that it will enforce such plan or permit program (hereafter referred to in this section as 'period of federally assumed enforcement'), the Administrator may enforce any requirement or prohibition of such plan or permit program with respect to any person by—

"(A) issuing an order requiring such person to comply with such requirement or prohibition,

"(B) issuing an administrative penalty order in accordance with subsection (d), or

"(C) bringing a civil action in accordance with subsection (b).

"(3) EPA ENFORCEMENT OF OTHER REQUIREMENTS.—Except for a requirement or prohibition enforceable under the preceding provisions of this subsection, whenever, on the basis of any information available to the Administrator, the Administrator finds that any person has violated, or is in violation of, any other requirement or prohibition of this title, section 303 of title III, title IV, title V, or title VI, including, but not limited to, a requirement or prohibition of any rule, plan, order, waiver, or permit promulgated, issued, or approved under those provisions or titles, or for the payment of any fee owed to the United States under this Act (other than title II), the Administrator may—

"(A) issue an administrative penalty order in accordance with subsection (d),

"(B) issue an order requiring such person to comply with such requirement or prohibition,

"(C) bring a civil action in accordance with subsection (b) or section 305, or

"(D) request the Attorney General to commence a criminal action in accordance with subsection (c).

"(4) REQUIREMENTS FOR ORDERS.—An order issued under this subsection (other than an order relating to a violation of section 112) shall not take effect until the person to whom it is issued has had an opportunity to confer with the Administrator concerning the alleged violation. A copy of any order issued under this subsection shall be sent to the State air pollution control agency of any State in which the violation occurs. Any order issued under this subsection shall state with reasonable specificity the nature of the violation and specify a time for compliance which the Administrator determines is reasonable, taking into account the seriousness of the violation and any good faith efforts to comply with applicable requirements. In any case in which an order under this subsection (or notice to a violator under paragraph (1)) is issued to a corporation, a copy of such order (or notice) shall be issued to appropriate corporate

officers. An order issued under this subsection shall require the person to whom it was issued to comply with the requirement as expeditiously as practicable, but in no event longer than one year after the date the order was issued, and shall be nonrenewable. No order issued under this subsection shall prevent the State or the Administrator from assessing any penalties nor otherwise affect or limit the State's or the United States authority to enforce under other provisions of this Act, nor affect any person's obligations to comply with any section of this Act or with a term or condition of any permit or applicable implementation plan promulgated or approved under this Act.

"(5) FAILURE TO COMPLY WITH NEW SOURCE REQUIREMENTS.—Whenever, on the basis of any available information, the Administrator finds that a State is not acting in compliance with any requirement or prohibition of the Act relating to the construction of new sources or the modification of existing sources, the Administrator may—

"(A) issue an order prohibiting the construction or modification of any major stationary source in any area to which such requirement applies;

"(B) issue an administrative penalty order in accordance with subsection (d), or

"(C) bring a civil action under subsection (b).

Nothing in this subsection shall preclude the United States from commencing a criminal action under section 113(c) at any time for any such violation.

"(b) CIVIL JUDICIAL ENFORCEMENT.—The Administrator shall, as appropriate, in the case of any person that is the owner or operator of an affected source, a major emitting facility, or a major stationary source, and may, in the case of any other person, commence a civil action for a permanent or temporary injunction, or to assess and recover a civil penalty of not more than $25,000 per day for each violation, or both, in any of the following instances:

"(1) Whenever such person has violated, or is in violation of, any requirement or prohibition of an applicable implementation plan or permit. Such an action shall be commenced (A) during any period of federally assumed enforcement, or (B) more than 30 days following the date of the Administrator's notification under subsection (a)(1) that such person has violated, or is in violation of, such requirement or prohibition.

"(2) Whenever such person has violated, or is in violation of, any other requirement or prohibition of this title, section 303 of title III, title IV, title V, or title VI, including, but not limited to, a requirement or prohibition of any rule, order, waiver or permit promulgated, issued, or approved under this Act, or for the payment of any fee owed the United States under this Act (other than title II).

"(3) Whenever such person attempts to construct or modify a major stationary source in any area with respect to which a finding under subsection (a)(5) has been made.

Any action under this subsection may be brought in the district court of the United States for the district in which the violation is alleged to have occurred, or is occurring, or in which the defendant resides, or where the defendant's principal place of business is located, and such court shall have jurisdiction to restrain such violation, to require compliance, to assess such civil penalty, to collect any fees owed the United States under this Act (other than

title II) and any noncompliance assessment and nonpayment penalty owed under section 120, and to award any other appropriate relief. Notice of the commencement of such action shall be given to the appropriate State air pollution control agency. In the case of any action brought by the Administrator under this subsection, the court may award costs of litigation (including reasonable attorney and expert witness fees) to the party or parties against whom such action was brought if the court finds that such action was unreasonable.

"(c) CRIMINAL PENALTIES.—(1) Any person who knowingly violates any requirement or prohibition of an applicable implementation plan (during any period of federally assumed enforcement or more than 30 days after having been notified under subsection (a)(1) by the Administrator that such person is violating such requirement or prohibition), any order under subsection (a) of this section, requirement or prohibition of section 111(e) of this title (relating to new source performance standards), section 112 of this title, section 114 of this title (relating to inspections, etc.), section 129 of this title (relating to solid waste combustion), section 165(a) of this title (relating to preconstruction requirements), an order under section 167 of this title (relating to preconstruction requirements), an order under section 303 of title III (relating to emergency orders), section 502(a) or 503(c) of title V (relating to permits), or any requirement or prohibition of title IV (relating to acid deposition control), or title VI (relating to stratospheric ozone control), including a requirement of any rule, order, waiver, or permit promulgated or approved under such sections or titles, and including any requirement for the payment of any fee owed the United States under this Act (other than title II) shall, upon conviction, be punished by a fine pursuant to title 18 of the United States Code, or by imprisonment for not to exceed 5 years, or both. If a conviction of any person under this paragraph is for a violation committed after a first conviction of such person under this paragraph, the maximum punishment shall be doubled with respect to both the fine and imprisonment.

"(2) Any person who knowingly—

"(A) makes any false material statement, representation, or certification in, or omits material information from, or knowingly alters, conceals, or fails to file or maintain any notice, application, record, report, plan, or other document required pursuant to this Act to be either filed or maintained (whether with respect to the requirements imposed by the Administrator or by a State);

"(B) fails to notify or report as required under this Act; or

"(C) falsifies, tampers with, renders inaccurate, or fails to install any monitoring device or method required to be maintained or followed under this Act

shall, upon conviction, be punished by a fine pursuant to title 18 of the United States Code, or by imprisonment for not more than 2 years, or both. If a conviction of any person under this paragraph is for a violation committed after a first conviction of such person under this paragraph, the maximum punishment shall be doubled with respect to both the fine and imprisonment.

"(3) Any person who knowingly fails to pay any fee owed the United States under this title, title III, IV, V, or VI shall, upon conviction, be punished by a fine pursuant to title 18 of the United States Code, or by imprisonment for not more than 1 year, or both. If a conviction of any person under this paragraph is for a violation

committed after a first conviction of such person under this paragraph, the maximum punishment shall be doubled with respect to both the fine and imprisonment.

"(4) Any person who negligently releases into the ambient air any hazardous air pollutant listed pursuant to section 112 of this Act or any extremely hazardous substance listed pursuant to section 302(a)(2) of the Superfund Amendments and Reauthorization Act of 1986 (42 U.S.C. 11002(a)(2)) that is not listed in section 112 of this Act, and who at the time negligently places another person in imminent danger of death or serious bodily injury shall, upon conviction, be punished by a fine under title 18 of the United States Code, or by imprisonment for not more than 1 year, or both. If a conviction of any person under this paragraph is for a violation committed after a first conviction of such person under this paragraph, the maximum punishment shall be doubled with respect to both the fine and imprisonment.

"(5)(A) Any person who knowingly releases into the ambient air any hazardous air pollutant listed pursuant to section 112 of this Act or any extremely hazardous substance listed pursuant to section 302(a)(2) of the Superfund Amendments and Reauthorization Act of 1986 (42 U.S.C. 11002(a)(2)) that is not listed in section 112 of this Act, and who knows at the time that he thereby places another person in imminent danger of death or serious bodily injury shall, upon conviction, be punished by a fine under title 18 of the United States Code, or by imprisonment of not more than 15 years, or both. Any person committing such violation which is an organization shall, upon conviction under this paragraph, be subject to a fine of not more than $1,000,000 for each violation. If a conviction of any person under this paragraph is for a violation committed after a first conviction of such person under this paragraph, the maximum punishment shall be doubled with respect to both the fine and imprisonment. For any air pollutant for which the Administrator has set an emissions standard or for any source for which a permit has been issued under title V, a release of such pollutant in accordance with that standard or permit shall not constitute a violation of this paragraph or paragraph (4).

"(B) In determining whether a defendant who is an individual knew that the violation placed another person in imminent danger of death or serious bodily injury—

"(i) the defendant is responsible only for actual awareness or actual belief possessed; and

"(ii) knowledge possessed by a person other than the defendant, but not by the defendant, may not be attributed to the defendant;

except that in proving a defendant's possession of actual knowledge, circumstantial evidence may be used, including evidence that the defendant took affirmative steps to be shielded from relevant information.

"(C) It is an affirmative defense to a prosecution that the conduct charged was freely consented to by the person endangered and that the danger and conduct charged were reasonably foreseeable hazards of—

"(i) an occupation, a business, or a profession; or

"(ii) medical treatment or medical or scientific experimentation conducted by professionally approved methods and such other person had been made aware of the risks involved prior to giving consent.

The defendant may establish an affirmative defense under this subparagraph by a preponderance of the evidence.

"(D) All general defenses, affirmative defenses, and bars to prosecution that may apply with respect to other Federal criminal offenses may apply under subparagraph (A) of this paragraph and shall be determined by the courts of the United States according to the principles of common law as they may be interpreted in the light of reason and experience. Concepts of justification and excuse applicable under this section may be developed in the light of reason and experience. Courts.

"(E) The term 'organization' means a legal entity, other than a government, established or organized for any purpose, and such term includes a corporation, company, association, firm, partnership, joint stock company, foundation, institution, trust, society, union, or any other association of persons.

"(F) The term 'serious bodily injury' means bodily injury which involves a substantial risk of death, unconsciousness, extreme physical pain, protracted and obvious disfigurement or protracted loss or impairment of the function of a bodily member, organ, or mental faculty.

"(6) For the purpose of this subsection, the term 'person' includes, in addition to the entities referred to in section 302(e), any responsible corporate officer.

"(d) ADMINISTRATIVE ASSESSMENT OF CIVIL PENALTIES.—(1) The Administrator may issue an administrative order against any person assessing a civil administrative penalty of up to $25,000, per day of violation, whenever, on the basis of any available information, the Administrator finds that such person—

"(A) has violated or is violating any requirement or prohibition of an applicable implementation plan (such order shall be issued (i) during any period of federally assumed enforcement, or (ii) more than thirty days following the date of the Administrator's notification under subsection (a)(1) of this section of a finding that such person has violated or is violating such requirement or prohibition); or

"(B) has violated or is violating any other requirement or prohibition of title I, III, IV, V, or VI, including, but not limited to, a requirement or prohibition of any rule, order, waiver, permit, or plan promulgated, issued, or approved under this Act, or for the payment of any fee owed the United States under this Act (other than title II); or

"(C) attempts to construct or modify a major stationary source in any area with respect to which a finding under subsection (a)(5) of this section has been made.

The Administrator's authority under this paragraph shall be limited to matters where the total penalty sought does not exceed $200,000 and the first alleged date of violation occurred no more than 12 months prior to the initiation of the administrative action, except where the Administrator and the Attorney General jointly determine that a matter involving a larger penalty amount or longer period of violation is appropriate for administrative penalty action. Any such determination by the Administrator and the Attorney General shall not be subject to judicial review.

"(2)(A) An administrative penalty assessed under paragraph (1) shall be assessed by the Administrator by an order made after opportunity for a hearing on the record in accordance with sections 554 and 556 of title 5 of the United States Code. The Administrator

shall issue reasonable rules for discovery and other procedures for hearings under this paragraph. Before issuing such an order, the Administrator shall give written notice to the person to be assessed an administrative penalty of the Administrator's proposal to issue such order and provide such person an opportunity to request such a hearing on the order, within 30 days of the date the notice is received by such person.

"(B) The Administrator may compromise, modify, or remit, with or without conditions, any administrative penalty which may be imposed under this subsection.

"(3) The Administrator may implement, after consultation with the Attorney General and the States, a field citation program through regulations establishing appropriate minor violations for which field citations assessing civil penalties not to exceed $5,000 per day of violation may be issued by officers or employees designated by the Administrator. Any person to whom a field citation is assessed may, within a reasonable time as prescribed by the Administrator through regulation, elect to pay the penalty assessment or to request a hearing on the field citation. If a request for a hearing is not made within the time specified in the regulation, the penalty assessment in the field citation shall be final. Such hearing shall not be subject to section 554 or 556 of title 5 of the United States Code, but shall provide a reasonable opportunity to be heard and to present evidence. Payment of a civil penalty required by a field citation shall not be a defense to further enforcement by the United States or a State to correct a violation, or to assess the statutory maximum penalty pursuant to other authorities in the Act, if the violation continues.

"(4) Any person against whom a civil penalty is assessed under paragraph (3) of this subsection or to whom an administrative penalty order is issued under paragraph (1) of this subsection may seek review of such assessment in the United States District Court for the District of Columbia or for the district in which the violation is alleged to have occurred, in which such person resides, or where such person's principal place of business is located, by filing in such court within 30 days following the date the administrative penalty order becomes final under paragraph (2), the assessment becomes final under paragraph (3), or a final decision following a hearing under paragraph (3) is rendered, and by simultaneously sending a copy of the filing by certified mail to the Administrator and the Attorney General. Within 30 days thereafter, the Administrator shall file in such court a certified copy, or certified index, as appropriate, of the record on which the administrative penalty order or assessment was issued. Such court shall not set aside or remand such order or assessment unless there is not substantial evidence in the record, taken as a whole, to support the finding of a violation or unless the order or penalty assessment constitutes an abuse of discretion. Such order or penalty assessment shall not be subject to review by any court except as provided in this paragraph. In any such proceedings, the United States may seek to recover civil penalties ordered or assessed under this section.

"(5) If any person fails to pay an assessment of a civil penalty or fails to comply with an administrative penalty order—

"(A) after the order or assessment has become final, or

"(B) after a court in an action brought under paragraph (4) has entered a final judgment in favor of the Administrator,

the Administrator shall request the Attorney General to bring a civil action in an appropriate district court to enforce the order or to recover the amount ordered or assessed (plus interest at rates established pursuant to section 6621(a)(2) of the Internal Revenue Code of 1986 from the date of the final order or decision or the date of the final judgment, as the case may be). In such an action, the validity, amount, and appropriateness of such order or assessment shall not be subject to review. Any person who fails to pay on a timely basis a civil penalty ordered or assessed under this section shall be required to pay, in addition to such penalty and interest, the United States enforcement expenses, including but not limited to attorneys fees and costs incurred by the United States for collection proceedings and a quarterly nonpayment penalty for each quarter during which such failure to pay persists. Such nonpayment penalty shall be 10 percent of the aggregate amount of such person's outstanding penalties and nonpayment penalties accrued as of the beginning of such quarter.

"(e) PENALTY ASSESSMENT CRITERIA.—(1) In determining the amount of any penalty to be assessed under this section or section 304(a), the Administrator or the court, as appropriate, shall take into consideration (in addition to such other factors as justice may require) the size of the business, the economic impact of the penalty on the business, the violator's full compliance history and good faith efforts to comply, the duration of the violation as established by any credible evidence (including evidence other than the applicable test method), payment by the violator of penalties previously assessed for the same violation, the economic benefit of noncompliance, and the seriousness of the violation. The court shall not assess penalties for noncompliance with administrative subpoenas under section 307(a), or actions under section 114 of this Act, where the violator had sufficient cause to violate or fail or refuse to comply with such subpoena or action.

"(2) A penalty may be assessed for each day of violation. For purposes of determining the number of days of violation for which a penalty may be assessed under subsection (b) or (d)(1) of this section, or section 304(a), or an assessment may be made under section 120, where the Administrator or an air pollution control agency has notified the source of the violation, and the plaintiff makes a prima facie showing that the conduct or events giving rise to the violation are likely to have continued or recurred past the date of notice, the days of violation shall be presumed to include the date of such notice and each and every day thereafter until the violator establishes that continuous compliance has been achieved, except to the extent that the violator can prove by a preponderance of the evidence that there were intervening days during which no violation occurred or that the violation was not continuing in nature.

"(f) AWARDS.—The Administrator may pay an award, not to exceed $10,000, to any person who furnishes information or services which lead to a criminal conviction or a judicial or administrative civil penalty for any violation of this title or title III, IV, V, or VI of this Act enforced under this section. Such payment is subject to available appropriations for such purposes as provided in annual appropriation Acts. Any officer, or employee of the United States or any State or local government who furnishes information or renders service in the performance of an official duty is ineligible for payment under this subsection. The Administrator may, by regulation, prescribe additional criteria for eligibility for such an award.

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"(g) SETTLEMENTS; PUBLIC PARTICIPATION.—At least 30 days before a consent order or settlement agreement of any kind under this Act to which the United States is a party (other than enforcement actions under section 113, 120, or title II, whether or not involving civil or criminal penalties, or judgments subject to Department of Justice policy on public participation) is final or filed with a court, the Administrator shall provide a reasonable opportunity by notice in the Federal Register to persons who are not named as parties or intervenors to the action or matter to comment in writing. The Administrator or the Attorney General, as appropriate, shall promptly consider any such written comments and may withdraw or withhold his consent to the proposed order or agreement if the comments disclose facts or considerations which indicate that such consent is inappropriate, improper, inadequate, or inconsistent with the requirements of this Act. Nothing in this subsection shall apply to civil or criminal penalties under this Act.

"(h) OPERATOR.—For purposes of the provisions of this section and section 120, the term 'operator', as used in such provisions, shall include any person who is senior management personnel or a corporate officer. Except in the case of knowing and willful violations, such term shall not include any person who is a stationary engineer or technician responsible for the operation, maintenance, repair, or monitoring of equipment and facilities and who often has supervisory and training duties but who is not senior management personnel or a corporate officer. Except in the case of knowing and willful violations, for purposes of subsection (c)(4) of this section, the term 'a person' shall not include an employee who is carrying out his normal activities and who is not a part of senior management personnel or a corporate officer. Except in the case of knowing and willful violations, for purposes of paragraphs (1), (2), (3), and (5) of subsection (c) of this section the term 'a person' shall not include an employee who is carrying out his normal activities and who is acting under orders from the employer.".

SEC. 702. COMPLIANCE CERTIFICATION.

42 USC 7414.

(a) RECORDS, REPORTS, MONITORING, ETC.—Section 114(a) of the Clean Air Act is amended as follows:

(1) Strike "or" in the first sentence immediately before "any emission standard under section 112,".

(2) Insert "or any regulation under section 129 (relating to solid waste combustion)," before "(ii) of determining".

(3) Amend paragraph (1) to read as follows:

"(1) the Administrator may require any person who owns or operates any emission source, who manufactures emission control equipment or process equipment, who the Administrator believes may have information necessary for the purposes set forth in this subsection, or who is subject to any requirement of this Act (other than a manufacturer subject to the provisions of section 206(c) or 208 with respect to a provision of title II) on a one-time, periodic or continuous basis to—

"(A) establish and maintain such records;

"(B) make such reports;

"(C) install, use, and maintain such monitoring equipment, and use such audit procedures, or methods;

"(D) sample such emissions (in accordance with such procedures or methods, at such locations, at such intervals,

during such periods and in such manner as the Administrator shall prescribe);

"(E) keep records on control equipment parameters, production variables or other indirect data when direct monitoring of emissions is impractical;

"(F) submit compliance certifications in accordance with section 114(a)(3); and

"(G) provide such other information as the Administrator may reasonably require; and".

(b) MONITORING AND COMPLIANCE CERTIFICATIONS.—Section 114(a) of the Clean Air Act is amended by adding the following new paragraph at the end: 42 USC 7414.

"(3) The Administrator shall in the case of any person which is the owner or operator of a major stationary source, and may, in the case of any other person, require enhanced monitoring and submission of compliance certifications. Compliance certifications shall include (A) identification of the applicable requirement that is the basis of the certification, (B) the method used for determining the compliance status of the source, (C) the compliance status, (D) whether compliance is continuous or intermittent, (E) such other facts as the Administrator may require. Compliance certifications and monitoring data shall be subject to subsection (c) of this section. Submission of a compliance certification shall in no way limit the Administrator's authorities to investigate or otherwise implement this Act. The Administrator shall promulgate rules to provide guidance and to implement this paragraph within 2 years after the enactment of the Clean Air Act Amendments of 1990.".

(c) JUDICIAL REVIEW.—Section 307(b)(1) of the Clean Air Act is amended by inserting "or revising regulations for enhanced monitoring and compliance certification programs under section 114(a)(3) of this Act," immediately before "or any other final action of the Administrator". 42 USC 7607.

SEC. 703. ADMINISTRATIVE ENFORCEMENT SUBPOENAS.

Section 307(a) of the Clean Air Act is amended by striking out "(1)" after "(a)" and by striking "or section 202(b)(5)" and immediately after "section 202(b)(4) or 211(c)(3)" inserting ", any investigation, monitoring, reporting requirement, entry, compliance inspection, or administrative enforcement proceeding under the Act (including but not limited to section 113, section 114, section 120, section 129, section 167, section 205, section 206, section 208, section 303, or section 306),".

SEC. 704. EMERGENCY ORDERS.

Section 303 of the Clean Air Act is amended as follows: 42 USC 7603.

(1) Strike "the health of persons and that appropriate State or local authorities have not acted to abate such sources" and insert "public health or welfare, or the environment".

(2) Amend the second sentence to read "If it is not practicable to assure prompt protection of public health or welfare or the environment by commencement of such a civil action, the Administrator may issue such orders as may be necessary to protect public health or welfare or the environment.".

(3) Strike the last 3 sentences of subsection (a) in their entirety.

(4) Strike "(a)" and strike out subsection (b).

(5) Insert the following at the end: "Prior to taking any action under this section, the Administrator shall consult with appropriate State and local authorities and attempt to confirm the accuracy of the information on which the action proposed to be taken is based. Any order issued by the Administrator under this section shall be effective upon issuance and shall remain in effect for a period of not more than 60 days, unless the Administrator brings an action pursuant to the first sentence of this section before the expiration of that period. Whenever the Administrator brings such an action within the 60-day period, such order shall remain in effect for an additional 14 days or for such longer period as may be authorized by the court in which such action is brought.".

SEC. 705. CONTRACTOR LISTINGS.

42 USC 7606.

Section 306(a) of the Clean Air Act is amended as follows:

(1) Strike "113(c)(1)" and insert "113(c)".

(2) Insert at the end thereof: "For convictions arising under section 113(c)(2), the condition giving rise to the conviction also shall be considered to include any substantive violation of this Act associated with the violation of 113(c)(2). The Administrator may extend this prohibition to other facilities owned or operated by the convicted person.".

SEC. 706. JUDICIAL REVIEW PENDING RECONSIDERATION OF REGULATION.

42 USC 7607.

Section 307(b)(1) of the Clean Air Act is amended

(1) by adding at the end thereof: "The filing of a petition for reconsideration by the Administrator of any otherwise final rule or action shall not affect the finality of such rule or action for purposes of judicial review nor extend the time within which a petition for judicial review of such rule or action under this section may be filed, and shall not postpone the effectiveness of such rule or action."; and

(2) striking "under section 113(d)" immediately before "under section 119" in the second sentence.

SEC. 707. CITIZEN SUITS.

42 USC 7604.

(a) CIVIL PENALTIES.—Section 304(a) of the Clean Air Act is amended by inserting immediately before the period at the end thereof: ", and to apply any appropriate civil penalties (except for actions under paragraph (2))".

(b) PENALTY FUND.—Section 304 of the Clean Air Act is amended by adding the following new subsection after subsection (f):

"(g) PENALTY FUND.—(1) Penalties received under subsection (a) shall be deposited in a special fund in the United States Treasury for licensing and other services. Amounts in such fund are authorized to be appropriated and shall remain available until expended, for use by the Administrator to finance air compliance and enforcement activities. The Administrator shall annually report to the Congress about the sums deposited into the fund, the sources thereof, and the actual and proposed uses thereof.

Reports.

"(2) Notwithstanding paragraph (1) the court in any action under this subsection to apply civil penalties shall have discretion to order that such civil penalties, in lieu of being deposited in the fund referred to in paragraph (1), be used in beneficial mitigation projects which are consistent with this Act and enhance the public health or

the environment. The court shall obtain the view of the Administrator in exercising such discretion and selecting any such projects. The amount of any such payment in any such action shall not exceed $100,000.".

(c) INTERVENTION BY EPA.—Paragraph (2) of section 304(c) of the Clean Air Act is amended to read as follows: 42 USC 7604.

"(2) In any action under this section, the Administrator, if not a party, may intervene as a matter of right at any time in the proceeding. A judgment in an action under this section to which the United States is not a party shall not, however, have any binding effect upon the United States.".

(d) SERVICE OF COMPLAINT; CONSENT JUDGMENTS.—Section 304(c) of the Clean Air Act is amended by adding the following new paragraph after paragraph (2):

"(3) Whenever any action is brought under this section the plaintiff shall serve a copy of the complaint on the Attorney General of the United States and on the Administrator. No consent judgment shall be entered in an action brought under this section in which the United States is not a party prior to 45 days following the receipt of a copy of the proposed consent judgment by the Attorney General and the Administrator during which time the Government may submit its comments on the proposed consent judgment to the court and parties or may intervene as a matter of right.".

(e) OTHER REQUIREMENTS.—Section 304(f) of the Clean Air Act is amended by striking "any condition or requirement of section 113(d) (relating to certain enforcement orders)" in paragraph (3), by striking "part B of title I" in paragraph (3) and inserting in lieu thereof "title VI", and by striking the period at the end of paragraph (3) and inserting "; or" and by adding the following new paragraph at the end thereof:

"(4) any other standard, limitation, or schedule established under any permit issued pursuant to title V or under any applicable State implementation plan approved by the Administrator, any permit term or condition, and any requirement to obtain a permit as a condition of operations.".

(f) UNREASONABLE DELAY.—Section 304(a) of the Clean Air Act is amended by adding the following at the end thereof: "The district courts of the United States shall have jurisdiction to compel (consistent with paragraph (2) of this subsection) agency action unreasonably delayed, except that an action to compel agency action referred to in section 307(b) which is unreasonably delayed may only be filed in a United States District Court within the circuit in which such action would be reviewable under section 307(b). In any such action for unreasonable delay, notice to the entities referred to in subsection (b)(1)(A) shall be provided 180 days before commencing such action." Courts.

(g) PAST VIOLATIONS.—Section 304(a) of the Clean Air Act is amended by inserting immediately before "to be in violation" in paragraphs (1) and (3) "to have violated (if there is evidence that the alleged violation has been repeated) or". The amendment made by this subsection shall take effect with respect to actions brought after the date 2 years after the enactment of the Clean Air Act Amendments of 1990. 42 USC 7604 note.

(h) DEFERRED ACTIONS.—Section 307(b)(2) of the Clean Air Act is amended by adding the following at the end thereof: "Where a final decision by the Administrator defers performance of any non- 42 USC 7607.

discretionary statutory action to a later time, any person may challenge the deferral pursuant to paragraph (1).".

SEC. 708. ENHANCED IMPLEMENTATION AND ENFORCEMENT OF NEW SOURCE REVIEW REQUIREMENTS.

42 USC 7477. Section 167 of the Clean Air Act is amended by striking "the construction of a major emitting facility" and inserting "the construction or modification of a major emitting facility".

SEC. 709. MOVABLE STATIONARY SOURCES.

42 USC 7602. Section 302 of the Clean Air Act is amended by adding the following subsection at the end thereof:

"(z) STATIONARY SOURCE.—The term 'stationary source' means generally any source of an air pollutant except those emissions resulting directly from an internal combustion engine for transportation purposes or from a nonroad engine or nonroad vehicle as defined in section 216.".

SEC. 710. ENFORCEMENT OF NEW TITLES OF THE ACT.

42 USC 7420. (a) SECTION 120.—Section 120(a)(2)(A) of the Clean Air Act is amended as follows:

(1) Insert ", 167, 303," after "111" in clause (ii).

(2) Redesignate clause (iii) as (iv) and in new clause (iv) strike "clause (i) or (ii)", and insert "clause (i), (ii), or (iii)".

(3) Insert the following new clause after clause (ii)—

"(iii) a stationary source which is not in compliance with any requirement of title IV, V, or VI of this Act, or".

42 USC 7607. (b) SECTION 307.—Section 307(d)(1)(H) of the Clean Air Act is amended by striking out "subtitle B of title I" and inserting "title VI".

42 USC 7401 note. SEC. 711. SAVINGS PROVISIONS AND EFFECTIVE DATES.

(a) SAVINGS PROVISIONS.—Except as otherwise expressly provided in this Act, no suit, action, or other proceeding lawfully commenced by the Administrator or any other officer or employee of the United States in his official capacity or in relation to the discharge of his official duties under the Clean Air Act, as in effect immediately prior to the date of enactment of this Act, shall abate by reason of the taking effect of the amendments made by this Act.

(b) EFFECTIVE DATES.—(1) Except as otherwise expressly provided, the amendments made by this Act shall be effective on the date of enactment of this Act.

(2) The Administrator's authority to assess civil penalties under section 205(c) of the Clean Air Act, as amended by this Act, shall apply to violations that occur or continue on or after the date of enactment of this Act. Civil penalties for violations that occur prior to such date and do not continue after such date shall be assessed in accordance with the provisions of the Clean Air Act in effect immediately prior to the date of enactment of this Act.

(3) The civil penalties prescribed under sections 205(a) and 211(d)(1) of the Clean Air Act, as amended by this Act, shall apply to violations that occur on or after the date of enactment of this Act. Violations that occur prior to such date shall be subject to the civil penalty provisions prescribed in sections 205(a) and 211(d) of the Clean Air Act in effect immediately prior to the enactment of this Act. The injunctive authority prescribed under section 211(d)(2) of

the Clean Air Act, as amended by this Act, shall apply to violations that occur or continue on or after the date of enactment of this Act.

(4) For purposes of paragraphs (2) and (3), where the date of a violation cannot be determined it will be assumed to be the date on which the violation is discovered.

TITLE VIII—MISCELLANEOUS PROVISIONS

Sec. 801. OCS air pollution.
Sec. 802. Grants for support of air pollution planning and control programs.
Sec. 803. Annual report repeal.
Sec. 804. Emission factors.
Sec. 805. Land use authority.
Sec. 806. Virgin Islands.
Sec. 807. Hydrogen fuel cell vehicle study and test program.
Sec. 808. Renewable energy and energy conservation incentives.
Sec. 809. Clean air study of southwestern New Mexico.
Sec. 810. Impact on small communities.
Sec. 811. Equivalent air quality controls among trading nations.
Sec. 812. Analyses of costs and benefits.
Sec. 813. Combustion of contaminated used oil in ships.
Sec. 814. American made products.
Sec. 815. Establishment of program to monitor and improve air quality in regions along the border between the United States and Mexico.
Sec. 816. Visibility.
Sec. 817. Role of secondary standards.
Sec. 818. International border areas.
Sec. 819. Exemptions for stripper wells.
Sec. 820. EPA report on magnetic levitation.
Sec. 821. Information gathering on greenhouse gases contributing to global climate changes.
Sec. 822. Authorization.

SEC. 801. OCS AIR POLLUTION.

Title III of the Clean Air Act is amended by adding the following new section after section 327:

"SEC. 328. AIR POLLUTION FROM OUTER CONTINENTAL SHELF ACTIVITIES. 42 USC 7627.

"(a)(1) APPLICABLE REQUIREMENTS FOR CERTAIN AREAS.—Not later than 12 months after the enactment of the Clean Air Act Amendments of 1990, following consultation with the Secretary of the Interior and the Commandant of the United States Coast Guard, the Administrator, by rule, shall establish requirements to control air pollution from Outer Continental Shelf sources located offshore of the States along the Pacific, Arctic and Atlantic Coasts, and along the United States Gulf Coast off the State of Florida eastward of longitude 87 degrees and 30 minutes ('OCS sources') to attain and maintain Federal and State ambient air quality standards and to comply with the provisions of part C of title I. For such sources located within 25 miles of the seaward boundary of such States, such requirements shall be the same as would be applicable if the source were located in the corresponding onshore area, and shall include, but not be limited to, State and local requirements for emission controls, emission limitations, offsets, permitting, monitoring, testing, and reporting. New OCS sources shall comply with such requirements on the date of promulgation and existing OCS sources shall comply on the date 24 months thereafter. The Administrator shall update such requirements as necessary to maintain consist-

ency with onshore regulations. The authority of this subsection shall supersede section 5(a)(8) of the Outer Continental Shelf Lands Act but shall not repeal or modify any other Federal, State, or local authorities with respect to air quality. Each requirement established under this section shall be treated, for purposes of sections 113, 114, 116, 120, and 304, as a standard under section 111 and a violation of any such requirement shall be considered a violation of section 111(e).

"(2) EXEMPTIONS.—The Administrator may exempt an OCS source from a specific requirement in effect under regulations under this subsection if the Administrator finds that compliance with a pollution control technology requirement is technically infeasible or will cause an unreasonable threat to health and safety. The Administrator shall make written findings explaining the basis of any exemption issued pursuant to this subsection and shall impose another requirement equal to or as close in stringency to the original requirement as possible. The Administrator shall ensure that any increase in emissions due to the granting of an exemption is offset by reductions in actual emissions, not otherwise required by this Act, from the same source or other sources in the area or in the corresponding onshore area. The Administrator shall establish procedures to provide for public notice and comment on exemptions proposed pursuant to this subsection.

Regulations.

"(3) STATE PROCEDURES.—Each State adjacent to an OCS source included under this subsection may promulgate and submit to the Administrator regulations for implementing and enforcing the requirements of this subsection. If the Administrator finds that the State regulations are adequate, the Administrator shall delegate to that State any authority the Administrator has under this Act to implement and enforce such requirements. Nothing in this subsection shall prohibit the Administrator from enforcing any requirement of this section.

"(4) DEFINITIONS.—For purposes of subsections (a) and (b)—

"(A) OUTER CONTINENTAL SHELF.—The term 'Outer Continental Shelf' has the meaning provided by section 2 of the Outer Continental Shelf Lands Act (43 U.S.C. 1331).

"(B) CORRESPONDING ONSHORE AREA.—The term 'corresponding onshore area' means, with respect to any OCS source, the onshore attainment or nonattainment area that is closest to the source, unless the Administrator determines that another area with more stringent requirements with respect to the control and abatement of air pollution may reasonably be expected to be affected by such emissions. Such determination shall be based on the potential for air pollutants from the OCS source to reach the other onshore area and the potential of such air pollutants to affect the efforts of the other onshore area to attain or maintain any Federal or State ambient air quality standard or to comply with the provisions of part C of title I.

"(C) OUTER CONTINENTAL SHELF SOURCE.—The terms 'Outer Continental Shelf source' and 'OCS source' include any equipment, activity, or facility which—

"(i) emits or has the potential to emit any air pollutant,

"(ii) is regulated or authorized under the Outer Continental Shelf Lands Act, and

"(iii) is located on the Outer Continental Shelf or in or on waters above the Outer Continental Shelf.

Such activities include, but are not limited to, platform and drill ship exploration, construction, development, production, processing, and transportation. For purposes of this subsection, emissions from any vessel servicing or associated with an OCS source, including emissions while at the OCS source or en route to or from the OCS source within 25 miles of the OCS source, shall be considered direct emissions from the OCS source.

"(D) NEW AND EXISTING OCS SOURCES.—The term 'new OCS source' means an OCS source which is a new source within the meaning of section 111(a). The term 'existing OCS source' means any OCS source other than a new OCS source.

"(b) REQUIREMENTS FOR OTHER OFFSHORE AREAS.—For portions of the United States Gulf Coast Outer Continental Shelf that are adjacent to the States not covered by subsection (a) which are Texas, Louisiana, Mississippi, and Alabama, the Secretary shall consult with the Administrator to assure coordination of air pollution control regulation for Outer Continental Shelf emissions and emissions in adjacent onshore areas. Concurrently with this obligation, the Secretary shall complete within 3 years of enactment of this section a research study examining the impacts of emissions from Outer Continental Shelf activities in such areas that fail to meet the national ambient air quality standards for either ozone or nitrogen dioxide. Based on the results of this study, the Secretary shall consult with the Administrator and determine if any additional actions are necessary. There are authorized to be appropriated such sums as may be necessary to provide funding for the study required under this section.

Appropriation authorization.

"(c)(1) COASTAL WATERS.—The study report of section 112(n) of the Clean Air Act shall apply to the coastal waters of the United States to the same extent and in the same manner as such requirements apply to the Great Lakes, the Chesapeake Bay, and their tributary waters.".

"(2) The regulatory requirements of section 112(n) of the Clean Air Act shall apply to the coastal waters of the States which are subject to subsection (a) of this section, to the same extent and in the same manner as such requirements apply to the Great Lakes, the Chesapeake Bay, and their tributary waters.".

SEC. 802. GRANTS FOR SUPPORT OF AIR POLLUTION PLANNING AND CONTROL PROGRAMS.

(a) GRANTS.—Subparagraphs (A) and (B) of section 105(a)(1) of the Clean Air Act are amended to read as follows:

42 USC 7405.

"(A) The Administrator may make grants to air pollution control agencies, within the meaning of paragraph (1), (2), (3), (4), or (5) of section 302, in an amount up to three-fifths of the cost of implementing programs for the prevention and control of air pollution or implementation of national primary and secondary ambient air quality standards. For the purpose of this section, 'implementing' means any activity related to the planning, developing, establishing, carrying-out, improving, or maintaining of such programs.

"(B) Subject to subsections (b) and (c) of this section, an air pollution control agency which receives a grant under subparagraph (A) and which contributes less than the required two-fifths minimum shall have 3 years following the date of the enactment of the Clean Air Act Amendments of 1990 in which to contribute such amount. If such an agency fails to meet and maintain this required

level, the Administrator shall reduce the amount of the Federal contribution accordingly.".

(b) CONFORMING AMENDMENT.—Section 105(a)(1)(C) of the Clean Air Act is amended by striking "(B)" and inserting "(A)". 42 USC 7405.

(c) LIMITATION ON GRANTS.—Section 105(b) of the Clean Air Act is amended by—

(1) inserting "(1)" immediately after "(b)"

(2) striking all that follows "(3) the financial need of the respective agencies."; and

(3) redesignating paragraphs (1), (2), and (3) as subparagraphs (A), (B), and (C) respectively.

(d) LIMITATION.—Section 105 of the Clean Air Act is amended by redesignating subsection (c) as paragraph (2) of subsection (b) and by striking all that follows "into which such area extends." in the newly designated paragraph (2) and inserting "Subject to the provisions of paragraph (1) of this subsection, no State shall have made available to it for application less than one-half of 1 per centum of the annual appropriation for grants under this section for grants to agencies within such State.".

(e) MAINTENANCE OF EFFORT.—Section 105 of the Clean Air Act is amended by inserting the following new subsection after subsection (b):

"(c) MAINTENANCE OF EFFORT.—(1) No agency shall receive any grant under this section during any fiscal year when its expenditures of non-Federal funds for recurrent expenditures for air pollution control programs will be less than its expenditures were for such programs during the preceding fiscal year. In order for the Administrator to award grants under this section in a timely manner each fiscal year, the Administrator shall compare an agency's prospective expenditure level to that of its second preceding fiscal year. The Administrator shall revise the current regulations which define applicable nonrecurrent and recurrent expenditures, and in so doing, give due consideration to exempting an agency from the limitations of this paragraph and subsection (a) due to periodic increases experienced by that agency from time to time in its annual expenditures for purposes acceptable to the Administrator for that fiscal year. Regulations.

"(2) The Administrator may still award a grant to an agency not meeting the requirements of paragraph (1) of this subsection if the Administrator, after notice and opportunity for public hearing, determines that a reduction in expenditures is attributable to a nonselective reduction in the expenditures in the programs of all Executive branch agencies of the applicable unit of Government. No agency shall receive any grant under this section with respect to the maintenance of a program for the prevention and control of air pollution unless the Administrator is satisfied that such a grant will be so used to supplement and, to the extent practicable, increase the level of State, local, or other non-Federal funds. No grants shall be made under this section until the Administrator has consulted with the appropriate official as designated by the Governor or Governors of the State or States affected.".

(f) COSTS.—Section 106 of the Clean Air Act is amended by striking "three-fourths of the air quality planning program costs of such agency" and inserting "three-fifths of the air quality implementation program costs of such agency". 42 USC 7406.

SEC. 803. ANNUAL REPORT REPEAL.

Section 313 of the Clean Air Act is repealed. 42 USC 7613.

SEC. 804. EMISSION FACTORS.

Part A of title I of the Clean Air Act is amended by adding the following new section at the end thereof:

"SEC. 130. EMISSION FACTORS. 42 USC 7430.

"Within 6 months after enactment of the Clean Air Act Amendments of 1990, and at least every 3 years thereafter, the Administrator shall review and, if necessary, revise, the methods ('emission factors') used for purposes of this Act to estimate the quantity of emissions of carbon monoxide, volatile organic compounds, and oxides of nitrogen from sources of such air pollutants (including area sources and mobile sources). In addition, the Administrator shall establish emission factors for sources for which no such methods have previously been established by the Administrator. The Administrator shall permit any person to demonstrate improved emissions estimating techniques, and following approval of such techniques, the Administrator shall authorize the use of such techniques. Any such technique may be approved only after appropriate public participation. Until the Administrator has completed the revision required by this section, nothing in this section shall be construed to affect the validity of emission factors established by the Administrator before the date of the enactment of the Clean Air Act Amendments of 1990.".

SEC. 805. LAND USE AUTHORITY.

Part A of title I of the Clean Air Act is amended by adding the following at the end thereof:

"SEC. 131. LAND USE AUTHORITY. 42 USC 7431.

"Nothing in this Act constitutes an infringement on the existing authority of counties and cities to plan or control land use, and nothing in this Act provides or transfers authority over such land use.".

SEC. 806. VIRGIN ISLANDS.

Section 324(a)(1) of the Clean Air Act (42 U.S.C. 7625–1(a)(1)) is amended by inserting "the Virgin Islands," after "American Samoa,".

SEC. 807. HYDROGEN FUEL CELL VEHICLE STUDY AND TEST PROGRAM. 42 USC 7404 note.

The Administrator of the Environmental Protection Agency, in conjunction with the National Aeronautics and Space Administration and the Department of Energy, shall conduct a study and test program on the development of a hydrogen fuel cell electric vehicle. The study and test program shall determine how best to transfer existing NASA hydrogen fuel cell technology into the form of a mass-producible, cost effective hydrogen fuel cell vehicle. Such study and test program shall include at a minimum a feasibility-design study, the construction of a prototype, and a demonstration. This study and test program should be completed and a report submitted to Congress within 3 years after the enactment of the Clean Air Act Amendments of 1990. This study and test program should be performed in the university or universities which are best exhibiting the facilities and expertise to develop such a fuel cell vehicle.

42 USC 7171 note.

SEC. 808. RENEWABLE ENERGY AND ENERGY CONSERVATION INCENTIVES.

(a) DEFINITION.—For purposes of this section, "renewable energy" means energy from photovoltaic, solar thermal, wind, geothermal, and biomass energy production technologies.

(b) RATE INCENTIVES STUDY.—Within 18 months after enactment, the Federal Energy Regulatory Commission, in consultation with the Environmental Protection Agency, shall complete a study which calculates the net environmental benefits of renewable energy, compared to nonrenewable energy, and assigns numerical values to them. The study shall include, but not be limited to, environmental impacts on air, water, land use, water use, human health, and waste disposal.

(c) MODEL REGULATIONS.—In conjunction with the study in subsection (b), the Commission shall propose one or more models for incorporating the net environmental benefits into the regulatory treatment of renewable energy in order to provide economic compensation for those benefits.

(d) REPORT.—The Commission shall transmit the study and the model regulations to Congress, along with any recommendations on the best ways to reward renewable energy technologies for their environmental benefits, in a report no later than 24 months after enactment.

SEC. 809. CLEAN AIR STUDY OF SOUTHWESTERN NEW MEXICO.

The Administrator shall conduct a study of the causes of degraded visibility in southwestern New Mexico. The Administrator, in consultation with the Secretary of State, is encouraged to cooperate with the Government of Mexico, other Federal agencies, and any other appropriate organizations in conducting the study. Nothing in this section shall be construed as contravening or superseding the provisions of any international agreement in force for the United States as of the date of enactment of this section, or any relevant Federal statute.

42 USC 7401 note.

SEC. 810. IMPACT ON SMALL COMMUNITIES.

Before implementing a provision of this Act, the Administrator of the Environmental Protection Agency shall consult with the Small Communities Coordinator of the Environmental Protection Agency to determine the impact of such provision on small communities, including the estimated cost of compliance with such provision.

42 USC 7612 note.

SEC. 811. EQUIVALENT AIR QUALITY CONTROLS AMONG TRADING NATIONS.

(a) FINDINGS.—The Congress finds that—

(1) all nations have the responsibility to adopt and enforce effective air quality standards and requirements and the United States, in enacting this Act, is carrying out its responsibility in this regard;

(2) as a result of complying with this Act, businesses in the United States will make significant capital investments and incur incremental costs in implementing control technology standards;

(3) such compliance may impair the competitiveness of certain United States jobs, production, processes, and products if foreign goods are produced under less costly environmental standards and requirements than are United States goods; and

(4) mechanisms should be sought through which the United States and its trading partners can agree to eliminate or reduce competitive disadvantages.

(b) ACTION BY THE PRESIDENT.—

(1) IN GENERAL.—Within 18 months after the date of the enactment of the Clean Air Act Amendments of 1990, the President shall submit to the Congress a report— Reports.

(A) identifying and evaluating the economic effects of—

(i) the significant air quality standards and controls required under this Act, and

(ii) the differences between the significant standards and controls required under this Act and similar standards and controls adopted and enforced by the major trading partners of the United States,

on the international competitiveness of United States manufacturers; and

(B) containing a strategy for addressing such economic effects through trade consultations and negotiations.

(2) ADDITIONAL REPORTING REQUIREMENTS.—(A) The evaluation required under paragraph (1)(A) shall examine the extent to which the significant air quality standards and controls required under this Act are comparable to existing internationally-agreed norms.

(B) The strategy required to be developed under paragraph (1)(B) shall include recommended options (such as the harmonization of standards and trade adjustment measures) for reducing or eliminating competitive disadvantages caused by differences in standards and controls between the United States and each of its major trading partners.

(3) PUBLIC COMMENT.—Interested parties shall be given an opportunity to submit comments regarding the evaluations and strategy required in the report under paragraph (1). The President shall take any such comment into account in preparing the report.

(4) INTERIM REPORT.—Within 9 months after the date of the enactment of the Clean Air Act Amendments of 1990, the President shall submit to the Congress an interim report on the progress being made in complying with paragraph (1).

SEC. 812. ANALYSES OF COSTS AND BENEFITS.

(a) ECONOMIC IMPACT ANALYSES.—Section 312 of the Clean Air Act is amended to read as follows: 42 USC 7612.

"SEC. 312. ECONOMIC IMPACT ANALYSES.

(a) The Administrator, in consultation with the Secretary of Commerce, the Secretary of Labor, and the Council on Clean Air Compliance Analysis (as established under subsection (f) of this section), shall conduct a comprehensive analysis of the impact of this Act on the public health, economy, and environment of the United States. In performing such analysis, the Administrator should consider the costs, benefits and other effects associated with compliance with each standard issued for—

"(1) a criteria air pollutant subject to a standard issued under section 109;

"(2) a hazardous air pollutant listed under section 112, including any technology-based standard and any risk-based standard for such pollutant;

"(3) emissions from mobile sources regulated under title II of this Act;

"(4) a limitation under this Act for emissions of sulfur dioxide or nitrogen oxides;

"(5) a limitation under title VI of this Act on the production of any ozone-depleting substance; and

"(6) any other section of this Act.

"(b) In describing the benefits of a standard described in subsection (a), the Administrator shall consider all of the economic, public health, and environmental benefits of efforts to comply with such standard. In any case where numerical values are assigned to such benefits, a default assumption of zero value shall not be assigned to such benefits unless supported by specific data. The Administrator shall assess how benefits are measured in order to assure that damage to human health and the environment is more accurately measured and taken into account.

"(c) In describing the costs of a standard described in subsection (a), the Administrator shall consider the effects of such standard on employment, productivity, cost of living, economic growth, and the overall economy of the United States.

Reports. "(d) Not later than 12 months after the date of enactment of the Clean Air Act Amendments of 1990, the Administrator, in consultation with the Secretary of Commerce, the Secretary of Labor, and the Council on Clean Air Compliance Analysis, shall submit a report to the Congress that summarizes the results of the analysis described in subsection (a), which reports—

"(1) all costs incurred previous to the date of enactment of the Clean Air Act Amendments of 1990 in the effort to comply with such standards; and

"(2) all benefits that have accrued to the United States as a result of such costs.

Reports. "(e) Not later than 24 months after the date of enactment of the Clean Air Act Amendments of 1990, and every 24 months thereafter, the Administrator, in consultation with the Secretary of Commerce, the Secretary of Labor, and the Council on Clean Air Compliance Analysis, shall submit a report to the Congress that updates the report issued pursuant to subsection (d), and which, in addition, makes projections into the future regarding expected costs, benefits, and other effects of compliance with standards pursuant to this Act as listed in subsection (a).

"(f) Not later than 6 months after the date of enactment of the Clean Air Act Amendments of 1990, the Administrator, in consultation with the Secretary of Commerce and the Secretary of Labor, shall appoint an Advisory Council on Clean Air Compliance Analysis of not less than nine members (hereafter in this section referred to as the 'Council'). In appointing such members, the Administrator shall appoint recognized experts in the fields of the health and environmental effects of air pollution, economic analysis, environmental sciences, and such other fields that the Administrator determines to be appropriate.

"(g) The Council shall—

"(1) review the data to be used for any analysis required under this section and make recommendations to the Administrator on the use of such data;

"(2) review the methodology used to analyze such data and make recommendations to the Administrator on the use of such methodology; and

"(3) prior to the issuance of a report required under subsection (d) or (e), review the findings of such report, and make recommendations to the Administrator concerning the validity and utility of such findings.".

(b) GAO REPORTS ON COSTS AND BENEFITS.—Commencing on the second year after the date of the enactment of the Clean Air Act Amendments of 1990 and annually thereafter, the Comptroller General of the General Accounting Office, in consultation with other agencies, such as the Environmental Protection Agency, the Department of Labor, the Department of Commerce, the United States Trade Representative, the National Academy of Sciences, the Office of Technology Assessment, the National Academy of Engineering, the Council on Environmental Quality, and the Surgeon General, shall provide a report to the Congress on the incremental human health and environmental benefits, and incremental costs beyond current clean air requirements of the new control strategies and technologies required by this Act. The report shall include, for such strategies and technologies, an analysis of the actual emissions reductions beyond existing practice, the effects on human life, human health and the environment (including both positive impacts and those that may be detrimental to jobs and communities resulting from loss of employers and employment, etc.), the energy security impacts, and the effect on United States products and industrial competitiveness in national and international markets. 42 USC 7612 note.

SEC. 813. COMBUSTION OF CONTAMINATED USED OIL IN SHIPS. Reports. 42 USC 7404 note.

Within 2 years after the enactment of the Clean Air Act Amendments of 1990, the Administrator of the Environmental Protection Agency shall complete a study and submit a report to Congress evaluating the health and environmental impacts of the combustion of contaminated used oil in ships, the reasons for using such oil for such purposes, the alternatives to such use, the costs of such alternatives, and other relevant factors and impacts. In preparing such study, the Administrator shall obtain the view and comments of all interested persons and shall consult with the Secretary of Transportation and the Secretary of the department in which the Coast Guard is operating.

SEC. 814. AMERICAN MADE PRODUCTS.

It is the sense of the Congress that—

(1) existing equipment and machinery retrofitted to comply with the Clean Air Act's "Best Available Control Technology" language and all other specifications within the Act be produced in the United States and purchased from American manufacturers.

(2) The construction of new industrial and utility facilities comply to the Act's specifications through the incorporation of American made equipment and technology.

(3) Individuals, groups, and organizations in the public sector strive to purchase and produce American made products that improve our nation's air quality.

SEC. 815. ESTABLISHMENT OF PROGRAM TO MONITOR AND IMPROVE AIR QUALITY IN REGIONS ALONG THE BORDER BETWEEN THE UNITED STATES AND MEXICO. 42 USC 7509a note.

(a) IN GENERAL.—The Administrator of the Environmental Protection Agency (hereinafter referred to as the "Administrator") is

authorized, in cooperation with the Department of State and the affected States, to negotiate with representatives of Mexico to authorize a program to monitor and improve air quality in regions along the border between the United States and Mexico. The program established under this section shall not extend beyond July 1, 1995.

(b) MONITORING AND REMEDIATION.—

(1) MONITORING.—The monitoring component of the program conducted under this section shall identify and determine sources of pollutants for which national ambient air quality standards (hereinafter referred to as "NAAQS") and other air quality goals have been established in regions along the border between the United States and Mexico. Any such monitoring component of the program shall include, but not be limited to, the collection of meteorological data, the measurement of air quality, the compilation of an emissions inventory, and shall be sufficient to the extent necessary to successfully support the use of a state-of-the-art mathematical air modeling analysis. Any such monitoring component of the program shall collect and produce data projecting the level of emission reductions necessary in both Mexico and the United States to bring about attainment of both primary and secondary NAAQS, and other air quality goals, in regions along the border in the United States. Any such monitoring component of the program shall include to the extent possible, data from monitoring programs undertaken by other parties.

(2) REMEDIATION.—The Administrator is authorized to negotiate with appropriate representatives of Mexico to develop joint remediation measures to reduce the level of airborne pollutants to achieve and maintain primary and secondary NAAQS, and other air quality goals, in regions along the border between the United States and Mexico. Such joint remediation measures may include, but not be limited to measures included in the Environmental Protection Agency's Control Techniques and Control Technology documents. Any such remediation program shall also identify those control measures implementation of which in Mexico would be expedited by the use of material and financial assistance of the United States.

(c) ANNUAL REPORTS.—The Administrator shall, each year the program authorized in this section is in operation, report to Congress on the progress of the program in bringing nonattainment areas along the border of the United States into attainment with primary and secondary NAAQS. The report issued by the Administrator under this paragraph shall include recommendations on funding mechanisms to assist in implementation of monitoring and remediation efforts.

(d) FUNDING AND PERSONNEL.—The Administrator may, where appropriate, make available, subject to the appropriations, such funds, personnel, and equipment as may be necessary to implement the provisions of this section. In those cases where direct financial assistance of the United States is provided to implement monitoring and remediation programs in Mexico, the Administrator shall develop grant agreements with appropriate representatives of Mexico to assure the accuracy and completeness of monitoring data and the performance of remediation measures which are financed by the United States. With respect to any control measures within Mexico funded by the United States, the Administrator shall, to the maxi-

Grant programs.

mum extent practicable, utilize resources of Mexico where such utilization would reduce costs to the United States. Such funding agreements shall include authorization for the Administrator to—

(1) review and agree to plans for monitoring and remediation;

(2) inspect premises, equipment and records to insure compliance with the agreements established under and the purposes set forth in this section; and

(3) where necessary, develop grant agreements with affected States to carry out the provisions of this section.

SEC. 816. VISIBILITY.

Subpart 2 of part C of title I of the Clean Air Act is amended by adding the following new section at the end thereof:

"SEC. 169B. VISIBILITY.

42 USC 7492.

"(a) STUDIES.—(1) The Administrator, in conjunction with the National Park Service and other appropriate Federal agencies, shall conduct research to identify and evaluate sources and source regions of both visibility impairment and regions that provide predominantly clean air in class I areas. A total of $8,000,000 per year for 5 years is authorized to be appropriated for the Environmental Protection Agency and the other Federal agencies to conduct this research. The research shall include—

"(A) expansion of current visibility related monitoring in class I areas;

"(B) assessment of current sources of visibility impairing pollution and clean air corridors;

"(C) adaptation of regional air quality models for the assessment of visibility;

"(D) studies of atmospheric chemistry and physics of visibility.

"(2) Based on the findings available from the research required in subsection (a)(1) as well as other available scientific and technical data, studies, and other available information pertaining to visibility source-receptor relationships, the Administrator shall conduct an assessment and evaluation that identifies, to the extent possible, sources and source regions of visibility impairment including natural sources as well as source regions of clear air for class I areas. The Administrator shall produce interim findings from this study within 3 years after enactment of the Clean Air Act Amendments of 1990.

"(b) IMPACTS OF OTHER PROVISIONS.—Within 24 months after enactment of the Clean Air Act Amendments of 1990, the Administrator shall conduct an assessment of the progress and improvements in visibility in class I areas that are likely to result from the implementation of the provisions of the Clean Air Act Amendments of 1990 other than the provisions of this section. Every 5 years thereafter the Administrator shall conduct an assessment of actual progress and improvement in visibility in class I areas. The Administrator shall prepare a written report on each assessment and transmit copies of these reports to the appropriate committees of Congress.

"(c) ESTABLISHMENT OF VISIBILITY TRANSPORT REGIONS AND COMMISSIONS.—

"(1) AUTHORITY TO ESTABLISH VISIBILITY TRANSPORT REGIONS.—Whenever, upon the Administrator's motion or by petition from the Governors of at least two affected States, the Administrator has reason to believe that the current or projected interstate

transport of air pollutants from one or more States contributes significantly to visibility impairment in class I areas located in the affected States, the Administrator may establish a transport region for such pollutants that includes such States. The Administrator, upon the Administrator's own motion or upon petition from the Governor of any affected State, or upon the recommendations of a transport commission established under subsection (b) of this section may—

"(A) add any State or portion of a State to a visibility transport region when the Administrator determines that the interstate transport of air pollutants from such State significantly contributes to visibility impairment in a class I area located within the transport region, or

"(B) remove any State or portion of a State from the region whenever the Administrator has reason to believe that the control of emissions in that State or portion of the State pursuant to this section will not significantly contribute to the protection or enhancement of visibility in any class I area in the region.

"(2) VISIBILITY TRANSPORT COMMISSIONS.—Whenever the Administrator establishes a transport region under subsection (c)(1), the Administrator shall establish a transport commission comprised of (as a minimum) each of the following members:

"(A) the Governor of each State in the Visibility Transport Region, or the Governor's designee;

"(B) The Administrator or the Administrator's designee; and

"(C) A representative of each Federal agency charged with the direct management of each class I area or areas within the Visibility Transport Region.

"(3) All representatives of the Federal Government shall be ex officio members.

"(4) The visibility transport commissions shall be exempt from the requirements of the Federal Advisory Committee Act (5 U.S.C. Appendix 2, Section 1).

"(d) DUTIES OF VISIBILITY TRANSPORT COMMISSIONS.—A Visibility Transport Commission—

"(1) shall assess the scientific and technical data, studies, and other currently available information, including studies conducted pursuant to subsection (a)(1), pertaining to adverse impacts on visibility from potential or projected growth in emissions from sources located in the Visibility Transport Region; and

Reports.

"(2) shall, within 4 years of establishment, issue a report to the Administrator recommending what measures, if any, should be taken under the Clean Air Act to remedy such adverse impacts. The report required by this subsection shall address at least the following measures:

"(A) the establishment of clean air corridors, in which additional restrictions on increases in emissions may be appropriate to protect visibility in affected class I areas;

"(B) the imposition of the requirements of part D of this title affecting the construction of new major stationary sources or major modifications to existing sources in such clean air corridors specifically including the alternative siting analysis provisions of section 173(a)(5); and

"(C) the promulgation of regulations under section 169A to address long range strategies for addressing regional haze which impairs visibility in affected class I areas.

"(e) DUTIES OF THE ADMINISTRATOR.—(1) The Administrator shall, taking into account the studies pursuant to subsection (a)(1) and the reports pursuant to subsection (d)(2) and any other relevant information, within eighteen months of receipt of the report referred to in subsection (d)(2) of this section, carry out the Administrator's regulatory responsibilities under section 169A, including criteria for measuring 'reasonable progress' toward the national goal.

"(2) Any regulations promulgated under section 169A of this title pursuant to this subsection shall require affected States to revise within 12 months their implementation plans under section 110 of this title to contain such emission limits, schedules of compliance, and other measures as may be necessary to carry out regulations promulgated pursuant to this subsection.

"(f) GRAND CANYON VISIBILITY TRANSPORT COMMISSION.—The Administrator pursuant to subsection (c)(1) shall, within 12 months, establish a visibility transport commission for the region affecting the visibility of the Grand Canyon National Park.".

SEC. 817. ROLE OF SECONDARY STANDARDS

42 USC 7409 note.

(a) REPORT.—The Administrator shall request the National Academy of Sciences to prepare a report to the Congress on the role of national secondary ambient air quality standards in protecting welfare and the environment. The report shall:

(1) include information on the effects on welfare and the environment which are caused by ambient concentrations of pollutants listed pursuant to section 108 and other pollutants which may be listed;

(2) estimate welfare and environmental costs incurred as a result of such effects;

(3) examine the role of secondary standards and the State implementation planning process in preventing such effects;

(4) determine ambient concentrations of each such pollutant which would be adequate to protect welfare and the environment from such effects;

(5) estimate the costs and other impacts of meeting secondary standards; and

(6) consider other means consistent with the goals and objectives of the Clean Air Act which may be more effective than secondary standards in preventing or mitigating such effects.

(b) SUBMISSION TO CONGRESS; COMMENTS; AUTHORIZATION.—(1) The report shall be transmitted to the Congress not later than 3 years after the date of enactment of the Clean Air Act Amendments of 1990.

(2) At least 90 days before issuing a report the Administrator shall provide an opportunity for public comment on the proposed report. The Administrator shall include in the final report a summary of the comments received on the proposed report.

(3) There are authorized to be appropriated such sums as are necessary to carry out this section.

SEC. 818. INTERNATIONAL BORDER AREAS.

Subpart 1 of part D of title I of the Clean Air Act is amended by adding at the end thereof the following new section:

42 USC 7509a.

"SEC. 179B. INTERNATIONAL BORDER AREAS.

"(a) IMPLEMENTATION PLANS AND REVISIONS.—Notwithstanding any other provision of law, an implementation plan or plan revision required under this Act shall be approved by the Administrator if—

"(1) such plan or revision meets all the requirements applicable to it under the Act other than a requirement that such plan or revision demonstrate attainment and maintenance of the relevant national ambient air quality standards by the attainment date specified under the applicable provision of this Act, or in a regulation promulgated under such provision, and

"(2) the submitting State establishes to the satisfaction of the Administrator that the implementation plan of such State would be adequate to attain and maintain the relevant national ambient air quality standards by the attainment date specified under the applicable provision of this Act, or in a regulation promulgated under such provision, but for emissions emanating from outside of the United States.

"(b) ATTAINMENT OF OZONE LEVELS.—Notwithstanding any other provision of law, any State that establishes to the satisfaction of the Administrator that, with respect to an ozone nonattainment area in such State, such State would have attained the national ambient air quality standard for ozone by the applicable attainment date, but for emissions emanating from outside of the United States, shall not be subject to the provisions of section 181(a)(2) or (5) or section 185.

"(c) ATTAINMENT OF CARBON MONOXIDE LEVELS.—Notwithstanding any other provision of law, any State that establishes to the satisfaction of the Administrator, with respect to a carbon monoxide nonattainment area in such State, that such State has attained the national ambient air quality standard for carbon monoxide by the applicable attainment date, but for emissions emanating from outside of the United States, shall not be subject to the provisions of section 186(b)(2) or (9).

"(d) ATTAINMENT OF PM-10 LEVELS.—Notwithstanding any other provision of law, any State that establishes to the satisfaction of the Administrator that, with respect to a PM-10 nonattainment area in such State, such State would have attained the national ambient air quality standard for carbon monoxide by the applicable attainment date, but for emissions emanating from outside the United States, shall not be subject to the provisions of section 188(b)(2).".

42 USC 7511 note.

SEC. 819. EXEMPTIONS FOR STRIPPER WELLS.

Notwithstanding any other provision of law, the amendments to the Clean Air Act made by section 103 of the Clean Air Act Amendments of 1990 (relating to additional provisions for ozone nonattainment areas), by section 104 of such amendments (relating to additional provisions for carbon monoxide nonattainment areas), by section 105 of such amendments (relating to additional provisions for PM-10 nonattainment areas), and by section 106 of such amendments (relating to additional provisions for areas designated as nonattainment for sulfur oxides, nitrogen dioxide, and lead) shall not apply with respect to the production of and equipment used in the exploration, production, development, storage or processing of—

(1) oil from a stripper well property, within the meaning of the June 1979 energy regulations (within the meaning of section 4996(b)(7) of the Internal Revenue Code of 1986, as in effect before the repeal of such section); and

(2) stripper well natural gas, as defined in section 108(b) of the Natural Gas Policy Act of 1978 (15 U.S.C. 3318(b)).

except to the extent that provisions of such amendments cover areas designated as Serious pursuant to part D of title I of the Clean Air Act and having a population of 350,000 or more, or areas designated as Severe or Extreme pursuant to such part D.

SEC. 820. EPA REPORT ON MAGNETIC LEVITATION.

Reports.

The Administrator of the Environmental Protection Agency shall, not later than 6 months after the date of enactment of this Act, submit to the Congress and the President a report of the Administrator's activities under any agreement with the Department of Transportation entered into prior to such date of enactment providing for an analysis of the health and environmental aspects of magnetic levitation technology.

SEC. 821. INFORMATION GATHERING ON GREENHOUSE GASES CONTRIBUTING TO GLOBAL CLIMATE CHANGE.

42 USC 7651k note.

(a) MONITORING.—The Administrator of the Environmental Protection Agency shall promulgate regulations within 18 months after the enactment of the Clean Air Act Amendments of 1990 to require that all affected sources subject to title V of the Clean Air Act shall also monitor carbon dioxide emissions according to the same timetable as in section 511 (b) and (c). The regulations shall require that such data be reported to the Administrator. The provisions of section 511(e) of title V of the Clean Air Act shall apply for purposes of this section in the same manner and to the same extent as such provision applies to the monitoring and data referred to in section 511.

Regulations.

(b) PUBLIC AVAILABILITY OF CARBON DIOXIDE INFORMATION.—For each unit required to monitor and provide carbon dioxide data under subsection (a), the Administrator shall compute the unit's aggregate annual total carbon dioxide emissions, incorporate such data into a computer data base, and make such aggregate annual data available to the public.

SEC. 822. AUTHORIZATION.

Section 327 of the Clean Air Act is amended to read as follows:

42 USC 7626.

"SEC. 327. AUTHORIZATION OF APPROPRIATIONS.

"(a) IN GENERAL.—There are authorized to be appropriated to carry out this Act such sums as may be necessary for the 7 fiscal years commencing after the enactment of the Clean Air Act Amendments of 1990.

"(b) GRANTS FOR PLANNING.—There are authorized to be appropriated (1) not more than $50,000,000 to carry out section 175 beginning in fiscal year 1991, to be available until expended, to develop plan revisions required by subpart 2, 3, or 4 of part D of title I, and (2) not more than $15,000,000 for each of the 7 fiscal years commencing after the enactment of the Clean Air Act Amendments of 1990 to make grants to the States to prepare implementation plans as required by subpart 2, 3, or 4 of part D of title I.".

TITLE IX—CLEAN AIR RESEARCH

Sec. 901. Clean air research.

SEC. 901. CLEAN AIR RESEARCH.

42 USC 7403.

(a) RESEARCH AND DEVELOPMENT PROGRAM.—(1) Section 103(a)(1) of the Clean Air Act is amended by inserting after "effects" the words "(including health and welfare effects)".

(2) Section 103(b) of the Clean Air Act is amended—

(A) in paragraph (6) by striking "and" after "control thereof;";

(B) in paragraph (7) by striking the period and inserting in lieu thereof "; and"; and

(C) by adding at the end the following new paragraph:

"(8) construct facilities, provide equipment, and employ staff as necessary to carry out this Act.".

(b) RESEARCH AMENDMENTS.—Section 103(c) through (f) of the Clean Air Act is amended to read as follows:

"(c) AIR POLLUTANT MONITORING, ANALYSIS, MODELING, AND INVENTORY RESEARCH.—In carrying out subsection (a), the Administrator shall conduct a program of research, testing, and development of methods for sampling, measurement, monitoring, analysis, and modeling of air pollutants. Such program shall include the following elements:

"(1) Consideration of individual, as well as complex mixtures of, air pollutants and their chemical transformations in the atmosphere.

"(2) Establishment of a national network to monitor, collect, and compile data with quantification of certainty in the status and trends of air emissions, deposition, air quality, surface water quality, forest condition, and visibility impairment, and to ensure the comparability of air quality data collected in different States and obtained from different nations.

"(3) Development of improved methods and technologies for sampling, measurement, monitoring, analysis, and modeling to increase understanding of the sources of ozone percursors, ozone formation, ozone transport, regional influences on urban ozone, regional ozone trends, and interactions of ozone with other pollutants. Emphasis shall be placed on those techniques which—

"(A) improve the ability to inventory emissions of volatile organic compounds and nitrogen oxides that contribute to urban air pollution, including anthropogenic and natural sources;

"(B) improve the understanding of the mechanism through which anthropogenic and biogenic volatile organic compounds react to form ozone and other oxidants; and

"(C) improve the ability to identify and evaluate region-specific prevention and control options for ozone pollution.

"(4) Submission of periodic reports to the Congress, not less than once every 5 years, which evaluate and assess the effectiveness of air pollution control regulations and programs using monitoring and modeling data obtained pursuant to this subsection.

"(d) ENVIRONMENTAL HEALTH EFFECTS RESEARCH.—(1) The Administrator, in consultation with the Secretary of Health and Human Services, shall conduct a research program on the short-term and long-term effects of air pollutants, including wood smoke, on human health. In conducting such research program the Administrator—

"(A) shall conduct studies, including epidemiological, clinical, and laboratory and field studies, as necessary to identify and evaluate exposure to and effects of air pollutants on human health;

"(B) may utilize, on a reimbursable basis, the facilities of existing Federal scientific laboratories and research centers; and

"(C) shall consult with other Federal agencies to ensure that similar research being conducted in other agencies is coordinated to avoid duplication.

"(2) In conducting the research program under this subsection, the Administrator shall develop methods and techniques necessary to identify and assess the risks to human health from both routine and accidental exposures to individual air pollutants and combinations thereof. Such research program shall include the following elements:

"(A) The creation of an Interagency Task Force to coordinate such program. The Task Force shall include representatives of the National Institute for Environmental Health Sciences, the Environmental Protection Agency, the Agency for Toxic Substances and Disease Registry, the National Toxicology Program, the National Institute of Standards and Technology, the National Science Foundation, the Surgeon General, and the Department of Energy. This Interagency Task Force shall be chaired by a representative of the Environmental Protection Agency and shall convene its first meeting within 60 days after the date of enactment of this subparagraph. Establishment.

"(B) An evaluation, within 12 months after the date of enactment of this paragraph, of each of the hazardous air pollutants listed under section 112(b) of this Act, to decide, on the basis of available information, their relative priority for preparation of environmental health assessments pursuant to subparagraph (C). The evaluation shall be based on reasonably anticipated toxicity to humans and exposure factors such as frequency of occurrence as an air pollutant and volume of emissions in populated areas. Such evaluation shall be reviewed by the Interagency Task Force established pursuant to subparagraph (A).

"(C) Preparation of environmental health assessments for each of the hazardous air pollutants referred to in subparagraph (B), beginning 6 months after the first meeting of the Interagency Task Force and to be completed within 96 months thereafter. No fewer than 24 assessments shall be completed and published annually. The assessments shall be prepared in accordance with guidelines developed by the Administrator in consultation with the Interagency Task Force and the Science Advisory Board of the Environmental Protection Agency. Each such assessment shall include—

"(i) an examination, summary, and evaluation of available toxicological and epidemiological information for the pollutant to ascertain the levels of human exposure which pose a significant threat to human health and the associated acute, subacute, and chronic adverse health effects;

"(ii) a determination of gaps in available information related to human health effects and exposure levels; and

"(iii) where appropriate, an identification of additional activities, including toxicological and inhalation testing,

needed to identify the types or levels of exposure which may present significant risk of adverse health effects in humans.

"(e) ECOSYSTEM RESEARCH.—In carrying out subsection (a), the Administrator, in cooperation, where appropriate, with the Under Secretary of Commerce for Oceans and Atmosphere, the Director of the Fish and Wildlife Service, and the Secretary of Agriculture, shall conduct a research program to improve understanding of the short-term and long-term causes, effects, and trends of ecosystems damage from air pollutants on ecosystems. Such program shall include the following elements:

"(1) Identification of regionally representative and critical ecosystems for research.

"(2) Evaluation of risks to ecosystems exposed to air pollutants, including characterization of the causes and effects of chronic and episodic exposures to air pollutants and determination of the reversibility of those effects.

"(3) Development of improved atmospheric dispersion models and monitoring systems and networks for evaluating and quantifying exposure to and effects of multiple environmental stresses associated with air pollution.

"(4) Evaluation of the effects of air pollution on water quality, including assessments of the short-term and long-term ecological effects of acid deposition and other atmospherically derived pollutants on surface water (including wetlands and estuaries) and groundwater.

"(5) Evaluation of the effects of air pollution on forests, materials, crops, biological diversity, soils, and other terrestrial and aquatic systems exposed to air pollutants.

"(6) Estimation of the associated economic costs of ecological damage which have occurred as a result of exposure to air pollutants.

Consistent with the purpose of this program, the Administrator may use the estuarine research reserves established pursuant to section 315 of the Coastal Zone Management Act of 1972 (16 U.S.C. 1461) to carry out this research.

"(f) LIQUEFIED GASEOUS FUELS SPILL TEST FACILITY.—(1) The Administrator, in consultation with the Secretary of Energy and the Federal Coordinating Council for Science, Engineering, and Technology, shall oversee an experimental and analytical research effort, with the experimental research to be carried out at the Liquefied Gaseous Fuels Spill Test Facility. In consultation with the Secretary of Energy, the Administrator shall develop a list of chemicals and a schedule for field testing at the Facility. Analysis of a minimum of 10 chemicals per year shall be carried out, with the selection of a minimum of 2 chemicals for field testing each year. Highest priority shall be given to those chemicals that would present the greatest potential risk to human health as a result of an accidental release—

"(A) from a fixed site; or

"(B) related to the transport of such chemicals.

"(2) The purpose of such research shall be to—

"(A) develop improved predictive models for atmospheric dispersion which at a minimum—

"(i) describe dense gas releases in complex terrain including man-made structures or obstacles with variable winds;

"(ii) improve understanding of the effects of turbulence on dispersion patterns; and

"(iii) consider realistic behavior of aerosols by including physicochemical reactions with water vapor, ground deposition, and removal by water spray;

"(B) evaluate existing and future atmospheric dispersion models by—

"(i) the development of a rigorous, standardized methodology for dense gas models; and

"(ii) the application of such methodology to current dense gas dispersion models using data generated from field experiments; and

"(C) evaluate the effectiveness of hazard mitigation and emergency response technology for fixed site and transportation related accidental releases of toxic chemicals.

Models pertaining to accidental release shall be evaluated and improved periodically for their utility in planning and implementing evacuation procedures and other mitigative strategies designed to minimize human exposure to hazardous air pollutants released accidentally.

"(3) The Secretary of Energy shall make available to interested persons (including other Federal agencies and businesses) the use of the Liquefied Gaseous Fuels Spill Test Facility to conduct research and other activities in connection with the activities described in this subsection.".

(c) ADDITIONAL PROVISIONS.—Section 103 of the Clean Air Act is amended by inserting after subsection (f) the following: 42 USC 7403.

"(g) POLLUTION PREVENTION AND EMISSIONS CONTROL.—In carrying out subsection (a), the Administrator shall conduct a basic engineering research and technology program to develop, evaluate, and demonstrate nonregulatory strategies and technologies for air pollution prevention. Such strategies and technologies shall be developed with priority on those pollutants which pose a significant risk to human health and the environment, and with opportunities for participation by industry, public interest groups, scientists, and other interested persons in the development of such strategies and technologies. Such program shall include the following elements:

"(1) Improvements in nonregulatory strategies and technologies for preventing or reducing multiple air pollutants, including sulfur oxides, nitrogen oxides, heavy metals, PM-10 (particulate matter), carbon monoxide, and carbon dioxide, from stationary sources, including fossil fuel power plants. Such strategies and technologies shall include improvements in the relative cost effectiveness and long-range implications of various air pollutant reduction and nonregulatory control strategies such as energy conservation, including end-use efficiency, and fuel-switching to cleaner fuels. Such strategies and technologies shall be considered for existing and new facilities.

"(2) Improvements in nonregulatory strategies and technologies for reducing air emissions from area sources.

"(3) Improvements in nonregulatory strategies and technologies for preventing, detecting, and correcting accidental releases of hazardous air pollutants.

"(4) Improvements in nonregulatory strategies and technologies that dispose of tires in ways that avoid adverse air quality impacts.

Nothing in this subsection shall be construed to authorize the imposition on any person of air pollution control requirements. The Administrator shall consult with other appropriate Federal agencies

to ensure coordination and to avoid duplication of activities authorized under this subsection.

"(h) NIEHS STUDIES.—(1) The Director of the National Institute of Environmental Health Sciences may conduct a program of basic research to identify, characterize, and quantify risks to human health from air pollutants. Such research shall be conducted primarily through a combination of university and medical school-based grants, as well as through intramural studies and contracts.

"(2) The Director of the National Institute of Environmental Health Sciences shall conduct a program for the education and training of physicians in environmental health.

"(3) The Director shall assure that such programs shall not conflict with research undertaken by the Administrator.

Appropriation authorization.

"(4) There are authorized to be appropriated to the National Institute of Environmental Health Sciences such sums as may be necessary to carry out the purposes of this subsection.

"(i) COORDINATION OF RESEARCH.—The Administrator shall develop and implement a plan for identifying areas in which activities authorized under this section can be carried out in conjunction with other Federal ecological and air pollution research efforts. The plan, which shall be submitted to Congress within 6 months after the date of enactment of this subsection, shall include—

"(1) an assessment of ambient monitoring stations and networks to determine cost effective ways to expand monitoring capabilities in both urban and rural environments;

"(2) a consideration of the extent of the feasibility and scientific value of conducting the research program under subsection (e) to include consideration of the effects of atmospheric processes and air pollution effects; and

"(3) a methodology for evaluating and ranking pollution prevention technologies, such as those developed under subsection (g), in terms of their ability to reduce cost effectively the emissions of air pollutants and other airborne chemicals of concern.

Reports.

Not later than 2 years after the date of enactment of this subsection, and every 4 years thereafter, the Administrator shall report to Congress on the progress made in implementing the plan developed under this subsection, and shall include in such report any revisions of the plan.

"(j) CONTINUATION OF THE NATIONAL ACID PRECIPITATION ASSESSMENT PROGRAM.—

"(1) The acid precipitation research program set forth in the Acid Precipitation Act of 1980 shall be continued with modifications pursuant to this subsection.

"(2) The Acid Precipitation Task Force shall consist of the Administrator of the Environmental Protection Agency, the Secretary of Energy, the Secretary of the Interior, the Secretary of Agriculture, the Administrator of the National Oceanic and Atmospheric Administration, the Administrator of the National Aeronautics and Space Administration, and such additional members as the President may select. The President shall appoint a chairman for the Task Force from among its members within 30 days after the date of enactment of this subsection.

President.

"(3) The responsibilities of the Task Force shall include the following:

"(A) Review of the status of research activities conducted to date under the comprehensive research plan developed

pursuant to the Acid Precipitation Act of 1980, and development of a revised plan that identifies significant research gaps and establishes a coordinated program to address current and future research priorities. A draft of the revised plan shall be submitted by the Task Force to Congress within 6 months after the date of enactment of this subsection. The plan shall be available for public comment during the 60 day period after its submission, and a final plan shall be submitted by the President to the Congress within 45 days after the close of the comment period. President.

"(B) Coordination with participating Federal agencies, augmenting the agencies' research and monitoring efforts and sponsoring additional research in the scientific community as necessary to ensure the availability and quality of data and methodologies needed to evaluate the status and effectiveness of the acid deposition control program. Such research and monitoring efforts shall include, but not be limited to—

"(i) continuous monitoring of emissions of precursors of acid deposition;

"(ii) maintenance, upgrading, and application of models, such as the Regional Acid Deposition Model, that describe the interactions of emissions with the atmosphere, and models that describe the response of ecosystems to acid deposition; and

"(iii) analysis of the costs, benefits, and effectiveness of the acid deposition control program.

"(C) Publication and maintenance of a National Acid Lakes Registry that tracks the condition and change over time of a statistically representative sample of lakes in regions that are known to be sensitive to surface water acidification.

"(D) Submission every two years of a unified budget recommendation to the President for activities of the Federal Government in connection with the research program described in this subsection.

"(E) Beginning in 1992 and biennially thereafter, submission of a report to Congress describing the results of its investigations and analyses. The reporting of technical information about acid deposition shall be provided in a format that facilitates communication with policymakers and the public. The report shall include— Reports.

"(i) actual and projected emissions and acid deposition trends;

"(ii) average ambient concentrations of acid deposition percursors and their transformation products;

"(iii) the status of ecosystems (including forests and surface waters), materials, and visibility affected by acid deposition;

"(iv) the causes and effects of such deposition, including changes in surface water quality and forest and soil conditions;

"(v) the occurrence and effects of episodic acidification, particularly with respect to high elevation watersheds; and

"(vi) the confidence level associated with each conclusion to aid policymakers in use of the information.

"(F) Beginning in 1996, and every 4 years thereafter, the report under subparagraph (E) shall include—

"(i) the reduction in deposition rates that must be achieved in order to prevent adverse ecological effects; and

"(ii) the costs and benefits of the acid deposition control program created by title IV of this Act.

"(k) AIR POLLUTION CONFERENCES.—If, in the judgment of the Administrator, an air pollution problem of substantial significance may result from discharge or discharges into the atmosphere, the Administrator may call a conference concerning this potential air pollution problem to be held in or near one or more of the places where such discharge or discharges are occurring or will occur. All interested persons shall be given an opportunity to be heard at such conference, either orally or in writing, and shall be permitted to appear in person or by representative in accordance with procedures prescribed by the Administrator. If the Administrator finds, on the basis of the evidence presented at such conference, that the discharge or discharges if permitted to take place or continue are likely to cause or contribute to air pollution subject to abatement under part A of title I, the Administrator shall send such findings, together with recommendations concerning the measures which the Administrator finds reasonable and suitable to prevent such pollution, to the person or persons whose actions will result in the discharge or discharges involved; to air pollution agencies of the State or States and of the municipality or municipalities where such discharge or discharges will originate; and to the interstate air pollution control agency, if any, in the jurisdictional area of which any such municipality is located. Such findings and recommendations shall be advisory only, but shall be admitted together with the record of the conference, as part of the proceedings under subsections (b), (c), (d), (e), and (f) of section 108.".

42 USC 7404.

(d) MISCELLANEOUS.—(1) Section 104 of the Clean Air Act is amended by striking "low-cost" each place it appears and inserting in lieu thereof "cost-effective".

(2) Section 104(c) of the Clean Air Act is amended to read as follows:

"(c) CLEAN ALTERNATIVE FUELS.—The Administrator shall conduct a research program to identify, characterize, and predict air emissions related to the production, distribution, storage, and use of clean alternative fuels to determine the risks and benefits to human health and the environment relative to those from using conventional gasoline and diesel fuels. The Administrator shall consult with other Federal agencies to ensure coordination and to avoid duplication of activities authorized under this subsection.".

42 USC 7403 note.

(e) ASSESSMENT OF INTERNATIONAL AIR POLLUTION CONTROL TECHNOLOGIES.—The Administrator of the Environmental Protection Agency shall conduct a study that compares international air pollution control technologies of selected industrialized countries to determine if there exist air pollution control technologies in countries outside the United States that may have beneficial applications to this Nation's air pollution control efforts. With respect to each country studied, the study shall include the topics of urban air quality, motor vehicle emissions, toxic air emissions, and acid deposition. The Administrator shall, within 2 years after the date of enactment of this Act, submit to the Congress a report detailing the results of such study.

Reports.

(f) ADIRONDACK EFFECTS ASSESSMENT.—The Administrator of the Environmental Protection Agency shall establish a program to research the effects of acid deposition on waters where acid deposition has been most acute. The Administrator shall enter into a multi-year contract for such purposes with an independent university which has a year-round field analytical laboratory on a body of water of not less than 25,000 acres nor greater than 75,000 acres, which lies within a geographic region designated as a Biosphere Reserve by the Department of State. The facility must have demonstrated the capability to analyze relevant data on said body of water over a period of 20 years as well as extensive ecosystem modeling capabilities. There are authorized to be appropriated to carry out this subsection not less than $6,000,000.

Government contracts.

Appropriation authorization.

(g) WESTERN STATES ACID DEPOSITION RESEARCH.—(1) The Administrator of the Environmental Protection Agency shall sponsor monitoring and research and submit to Congress annual and periodic assessment reports on—

Reports. 42 USC 7403 note.

(A) the occurrence and effects of acid deposition on surface waters located in that part of the United States west of the Mississippi River;

(B) the occurrence and effects of acid deposition on high elevation ecosystems (including forests, and surface waters); and

(C) the occurrence and effects of episodic acidification, particularly with respect to high elevation watersheds.

(2) The Administrator of the Environmental Protection Agency shall analyze data generated from the studies conducted under paragraph (1), data from the Western Lakes Survey, and other appropriate research and utilize predictive modeling techniques that take into account the unique geographic, climatological, and atmospheric conditions which exist in the western United States to determine the potential occurrence and effects of acid deposition due to any projected increases in the emission of sulfur dioxide and nitrogen oxides in that part of the United States located west of the Mississippi River. The Administrator shall include the results of the project conducted under this paragraph in the reports issued to Congress under paragraph (1).

(h)(1) In carrying out the provisions of section 103(f) of the Clean Air Act, the Secretary of Energy is authorized to enter into contracts and cooperative agreements with, and make grants to, nonprofit entities affiliated with the University of Nevada and the University of Wyoming.

Government contracts. Grant program. Colleges and universities.

(2) Agreements, contracts, and grants described in paragraph (1) shall provide that such nonprofit entities—

(A) may provide basic technical and management personnel; and

(B) shall make available permanent research support facilities owned by the nonprofit entities.

(3) The nonprofit entities described in paragraphs (1) and (2) shall be authorized to make grants, accept contributions, and enter into agreements with other entities to carry out the provisions of this subsection.

(4) There are authorized to be appropriated to the Department of Energy $3,000,000 for fiscal year 1991 and such sums as may be necessary for each fiscal year thereafter to carry out the provisions of paragraph (1). Such amounts shall remain available until expended.

42 USC 7601 note.

TITLE X—DISADVANTAGED BUSINESS CONCERNS

Sec. 1001. Disadvantaged business concerns.
Sec. 1002. Use of quotas prohibited.

SEC. 1001. DISADVANTAGED BUSINESS CONCERNS.

(a) IN GENERAL.—In providing for any research relating to the requirements of the amendments made by the Clean Air Act Amendments of 1990 which uses funds of the Environmental Protection Agency, the Administrator of the Environmental Protection Agency shall, to the extent practicable, require that not less than 10 percent of total Federal funding for such research will be made available to disadvantaged business concerns.

(b) DEFINITION.—

(1)(A) For purposes of subsection (a), the term "disadvantaged business concern" means a concern—

(i) which is at least 51 percent owned by one or more socially and economically disadvantaged individuals or, in the case of a publicly traded company, at least 51 percent of the stock of which is owned by one or more socially and economically disadvantaged individuals; and

(ii) the management and daily business operations of which are controlled by such individuals.

(B)(i) A for-profit business concern is presumed to be a disadvantaged business concern for purposes of subsection (a) if it is at least 51 percent owned by, or in the case of a concern which is a publicly traded company at least 51 percent of the stock of the company is owned by, one or more individuals who are members of the following groups:

(I) Black Americans.
(II) Hispanic Americans.
(III) Native Americans.
(IV) Asian Americans.
(V) Women.
(VI) Disabled Americans.

(ii) The presumption established by clause (i) may be rebutted with respect to a particular business concern if it is reasonably established that the individual or individuals referred to in that clause with respect to that business concern are not experiencing impediments to establishing or developing such concern as a result of the individual's identification as a member of a group specified in that clause.

Minority groups.

(C) The following institutions are presumed to be disadvantaged business concerns for purposes of subsection (a):

(i) Historically black colleges and universities, and colleges and universities having a student body in which 40 percent of the students are Hispanic.

(ii) Minority institutions (as that term is defined by the Secretary of Education pursuant to the General Education Provision Act (20 U.S.C. 1221 et seq.)).

(iii) Private and voluntary organizations controlled by individuals who are socially and economically disadvantaged.

(D) A joint venture may be considered to be a disadvantaged business concern under subsection (a), notwithstanding the size of such joint venture, if—

(i) a party to the joint venture is a disadvantaged business concern; and

(ii) that party owns at least 51 percent of the joint venture.

A person who is not an economically disadvantaged individual or a disadvantaged business concern, as a party to a joint venture, may not be a party to more than 2 awarded contracts in a fiscal year solely by reason of this subparagraph.

(E) Nothing in this paragraph shall prohibit any member of a racial or ethnic group that is not listed in subparagraph (B)(i) from establishing that they have been impeded in establishing or developing a business concern as a result of racial or ethnic discrimination.

SEC. 1002. USE OF QUOTAS PROHIBITED.—Nothing in this title shall permit or require the use of quotas or a requirement that has the effect of a quota in determining eligibility under section 1001.

TITLE XI—CLEAN AIR EMPLOYMENT TRANSITION ASSISTANCE

Sec. 1101. Clean air employment transition assistance.

SEC. 1101. CLEAN AIR EMPLOYMENT TRANSITION ASSISTANCE.

(a) AMENDMENT.—Part B of title III of the Job Training Partnership Act (29 U.S.C. 1501) is amended by adding at the end the following:

"CLEAN AIR EMPLOYMENT TRANSITION ASSISTANCE

"SEC. 326. (a) DETERMINATION OF ELIGIBILITY.— 29 USC 1662e.

"(1) DEFINITIONS.—For purposes of this section, the term 'eligible individual' means an individual who—

"(A) is an eligible dislocated worker, as that term is defined in section 301(a), and

"(B) has been terminated or laid off, or has received a notice of termination or lay off, as a consequence of compliance with the Clean Air Act.

"(2) DETERMINATIONS.—The determination of eligibility under paragraph (1)(B) of this subsection shall be made by the Secretary of Labor, pursuant to criteria established by the Secretary, in consultation with the Administrator of the Environmental Protection Agency.

"(b) GRANTS AUTHORIZED.—The Secretary may make grants to States, substate grantees (as defined in section 312(c)), employers, employer associations, and representatives of employees—

"(1) to provide training, adjustment assistance, and employment services to eligible individuals adversely affected by compliance with the Clean Air Act; and

"(2) to make needs-related payments to such individuals in accordance with subsection (f) of this section.

"(c) PRIORITY AND APPROVAL.—

"(1) PRIORITY.—In reviewing applications for grants under subsection (b), the Secretary shall give priority to applications

proposing to provide training, adjustment assistance, and services in areas which have the greatest number of eligible individuals.

"(2) NEEDS-RELATED PAYMENTS REQUIRED.—The Secretary shall not approve an application for a grant under subsection (b) unless the application contains assurances that the applicant will use grant funds to provide needs-related payments in accordance with subsection (f).

"(d) USE OF FUNDS.—Subject to the requirements of subsections (e) and (f) of this section, grants under subsection (b) may be used for any purpose for which funds may be used under section 314.

"(e) ADJUSTMENT ASSISTANCE.—

"(1) JOB SEARCH ALLOWANCE.—

"(A) IN GENERAL.—Grants under subsection (b) for adjustment assistance may be used to provide job search allowances to eligible individuals. Such allowance, if granted, shall provide reimbursement to the individual of not more than 90 percent of the cost of necessary job search expenses, as prescribed by regulations of the Secretary, but may not exceed $800 unless the need for a greater amount is justified in the application and approved by the Secretary.

"(B) CRITERIA FOR GRANTING JOB SEARCH ALLOWANCES.—A job search allowance may be granted only—

"(i) to assist an eligible individual who has been totally separated in securing a job within the United States; and

"(ii) where the Secretary determines that such employee cannot reasonably be expected to secure suitable employment in the commuting area in which the worker resides.

"(2) RELOCATION ALLOWANCE.—

"(A) IN GENERAL.—Grants under subsection (b) for adjustment assistance may be used to provide relocation allowances to eligible individuals. Such an allowance may only be granted to assist an eligible individual in relocating within the United States and only if the Secretary determines that—

"(i) such employee cannot reasonably be expected to secure suitable employment in the commuting area in which the employee resides; and

"(ii) such employee—

"(I) has obtained suitable employment affording a reasonable expectation of long-term duration in the area in which the employee wishes to relocate, or has obtained a bona fide offer of such employment, and

"(II) is totally separated from employment at the time relocation commences.

"(B) AMOUNT OF RELOCATION ALLOWANCE.—The amount of any relocation allowance for any eligible individual may not exceed the amount which is equal to the sum of—

"(i) 90 percent of the reasonable and necessary expenses, specified in regulations prescribed by the Secretary, incurred in transporting an individual and the individual's family, if any, and household effects, and

"(ii) a lump sum equivalent to 3 times the employee's average weekly wage, up to a maximum payment of $800, unless the need for a greater amount is justified in the application and approved by the Secretary.

"(f) NEEDS-RELATED PAYMENTS.—The Secretary shall prescribe regulations with respect to the use of funds from grants under subsection (b) for needs-related payments in order to enable eligible individuals to complete training or education programs under this section. Such regulations shall— Regulations.

"(1) require that such payments shall be provided to an eligible individual only if such individual—

"(A) does not qualify or has ceased to qualify for unemployment compensation;

"(B) has been enrolled in training by the end of the 13th week of the individual's initial unemployment compensation benefit period, or, if later, the end of the 8th week after an individual is informed that a short-term layoff will in fact exceed 6 months; and

"(C) is participating in training or education programs under this section, except that such regulations shall protect an individual from being disqualified pursuant to this clause for a failure to participate that is not the fault of the individual;

"(2) provide that to qualify for such payments the individual currently receives, or is a member of a family which currently receives, a total family income (exclusive of unemployment compensation, child support payments, and welfare payments) which, in relation to family size, is not in excess of the lower living standard income level;

"(3) provide that the levels of such payments shall be equal to the higher of—

"(A) the applicable level of unemployment compensation; or

"(B) the poverty level determined in accordance with criteria established by the Director of the Office of Management and Budget;

"(4) provide for the adjustment of payments to reflect changes in total family income; and

"(5) provide that the grantee shall obtain information with respect to such income, and changes therein, from the eligible individual.

"(g) ADMINISTRATIVE EXPENSES.—The Secretary of Labor may reserve not more than 5 percent of the funds appropriated under this section for the administration of activities authorized under this section, including the provision of technical assistance for the preparation of grant applications.

"(h) AUTHORIZATION OF APPROPRIATIONS.—In addition to amounts authorized to be appropriated by section 3(c) of this Act, there are authorized to be appropriated $50,000,000 for fiscal year 1991, and such sums as may be necessary for each of fiscal years 1992, 1993, 1994, and 1995 to carry out this section. The total amount appropriated for all 5 such fiscal years shall not exceed $250,000,000. Amounts appropriated pursuant to this subsection shall remain available until expended.

"(i) REGULATIONS.—The Secretary shall prescribe regulations to carry out this section not later than 180 days after the date of enactment of this section.

"(j) GAO ASSESSMENT OF EFFECTS OF CLEAN AIR ACT COMPLIANCE OF EMPLOYMENT.—The Comptroller General of the United States shall—

"(1) identify and assess, to the extent possible, the effects on employment that are attributable to compliance with the provisions of the Clean Air Act; and

Reports.

"(2) submit to the Congress on the 4th anniversary of the date of the enactment of this subtitle a written report on the assessments required under paragraph (1).".

(b) CONFORMING AMENDMENTS.—

(1) The table of contents of the Job Training Partnership Act is amended by adding at the end of the items pertaining to part B of title III the following:

"Sec. 326. Clean air employment transition assistance.".

29 USC 1502.

(2) Section 3(c) of the Job Training Partnership Act is amended by inserting "(other than section 326 thereof)" after "title III".

Approved November 15, 1990.

LEGISLATIVE HISTORY—S. 1630 (H.R. 3030):

HOUSE REPORTS: No. 101-490, Pt. 1 (Comm. on Energy and Commerce), Pt. 2 (Comm. on Ways and Means), and Pt. 3 (Comm. on Public Works and Transportation), all accompanying H.R. 3030; and No. 101-952 (Comm. of Conference).

SENATE REPORTS: No. 101-228 (Comm. on Environment and Public Works).

CONGRESSIONAL RECORD, Vol. 136 (1990):

Jan. 23-25, 29-31, Mar. 5-9, 20-22, 26-30, Apr. 2, 3, considered and passed Senate.

May 21, 23, H.R. 3030 considered and passed House; proceedings vacated and S. 1630, amended, passed in lieu.

Oct. 26, House agreed to conference repo .. Senate considered conference report.

Oct. 27, Senate agreed to conference repo ..

WEEKLY COMPILATION OF PRESIDENTIA' DOCUMENTS, Vol. 26 (1990):

Nov. 15, Presidential remarks and statement.

Public Law 101-589
101st Congress

An Act

To promote excellence in American mathematics, science and engineering education; enhance the scientific and technical literacy of the American public; stimulate the professional development of scientists and engineers; increase the participation of women and minorities in careers in mathematics, science, and engineering; and for other purposes.

Nov. 16, 1990
[H.R. 996]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Excellence in Mathematics, Science and Engineering Education Act of 1990".

Excellence in Mathematics, Science and Engineering Education Act of 1990.
20 USC 5301 note.

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TITLE I—FINDINGS AND OBJECTIVES

20 USC 5301.

SEC. 101. FINDINGS AND OBJECTIVES.

(a) FINDINGS.—The Congress finds that—

(1) science and mathematics are cornerstones of America's efforts to compete in the global marketplace and improve our standard of living and quality of life;

(2) international comparisons show American students are consistently behind their foreign counterparts in mathematics and science achievement;

(3) projections by the National Science Foundation estimate a shortage of 675,000 scientists and engineers by the year 2000;

(4) women and minorities are significantly underrepresented in the fields of mathematics, science and engineering;

(5) the achievement of universal scientific and mathematical literacy by all Americans is an essential goal of all efforts to strengthen American competitiveness;

(6) the achievement of scientific and mathematical literacy requires a strong, coordinated effort to strengthen the teaching of science and mathematics; and

(7) the Federal Government has a significant role in promoting the study of mathematics and science, by providing financial assistance to improve the general quality of programs for the study of mathematics and science, by acting as a source for information concerning successful projects and activities, by encouraging talented men and women to pursue scientific careers and by strengthening the mathematics and science educational opportunities available to women and minorities.

(b) NATIONAL OBJECTIVES.—The Congress declares that it shall be a national objective to—

(1) encourage American students to pursue careers in mathematics, science and engineering;

(2) improve the quality of teaching in mathematics and science made available to all Americans;

(3) have American students rank first in the world in mathematics and science;

(4) substantially increase the number of graduates with degrees in mathematics, science and engineering; and

(5) substantially increase the number of women and minorities pursuing careers in mathematics, science and engineering.

TITLE II—MATHEMATICS, SCIENCE AND TECHNOLOGY IMPROVEMENTS

PART A—DWIGHT D. EISENHOWER MATHEMATICS AND SCIENCE EDUCATION AMENDMENTS

SEC. 201. IN-STATE APPORTIONMENT.

Section 2005 of the Dwight D. Eisenhower Mathematics and Science Education Act (20 U.S.C. 2985) is amended by adding at the end the following:

"(c) LIMITATION.—

"(1) GENERAL RULE.—Except as provided in paragraph (2), any local educational agency that receives an allocation of less than $6,000 under subsection (a) shall, for the purpose of providing services under this part, form a consortium with at least 1 other local educational agency or institution of higher education receiving assistance under this section.

"(2) WAIVER.—The State educational agency shall waive the application of paragraph (1) in the case of any local educational agency that demonstrates that the amount of its allocation is sufficient to provide a program of sufficient size, scope, and quality to be effective. In granting waivers under the preceding sentence, the State educational agency shall—

"(A) give special consideration to local educational agencies serving rural areas; and

Rural areas.

"(B) consider cash or in-kind contributions provided from State or local sources that may be combined with the local educational agency's allocation for the purpose of providing services under this part.".

SEC. 202. ELEMENTARY AND SECONDARY EDUCATION PROGRAMS.

(a) Section 2006 of the Dwight D. Eisenhower Mathematics and Science Education Act (20 U.S.C. 2986) is amended—

(1) by redesignating subsection (d) as subsection (e);

(2) by inserting after subsection (c) the following new subsection:

"(d) PRIORITY FOR TEACHER TRAINING.—

"(1) GENERAL RULE.—Except as provided in paragraph (2), in any fiscal year beginning after September 30, 1990 for which a local educational agency receives under this section an amount that is larger than the amount such agency received under this section for the fiscal year 1990, the excess of such amount over the amount received under this section for the fiscal year 1990 shall first be used to provide training for mathematics teachers and science teachers in elementary and middle schools.

"(2) WAIVER.—The Secretary may waive the application of paragraph (1) in the case of any local educational agency that demonstrates to the Secretary that mathematics teachers and science teachers in the elementary and middle schools under the jurisdiction of such local educational agency will receive adequate training without using such excess amounts for such training."; and

(3) in subsection (e) (as redesignated by paragraph (1) of this subsection), by inserting after "this section" the following: ", or $20,000, whichever is greater,".

(b) Section 2005 of the Dwight D. Eisenhower Mathematics and Science Education Act (20 U.S.C. 2985) is amended by inserting after "90 percent", "or the remainder after application of section 2006(e).".

SEC. 203. HIGHER EDUCATION PROGRAMS.

(a) Subsection (d) of section 2007 of the Dwight D. Eisenhower Mathematics and Science Education Act (20 U.S.C. 2987) is amended by inserting after "this section" the following: ", or $20,000, whichever is greater,".

(b) Section 2007(b) of the Dwight D. Eisenhower Mathematics and Science Education Act (20 U.S.C. 2987) is amended by inserting after "95 percent," "or the remainder after application of subsection (d).".

Grant programs.
Government contracts.

SEC. 204. NATIONAL PROGRAMS.

Section 2012 of the Dwight D. Eisenhower Mathematics and Science Education Act (20 U.S.C. 2992) is amended—

(1) by redesignating subsection (d) as subsection (f); and

(2) by inserting after subsection (c) the following new subsections:

"(d) NATIONAL CLEARINGHOUSE FOR SCIENCE, MATHEMATICS, AND TECHNOLOGY EDUCATION MATERIALS.—

"(1) CLEARINGHOUSE AUTHORIZED.—The Secretary, in consultation with the Director, may award a grant or contract to establish a National Clearinghouse for Mathematics and Science Education (hereinafter in this subsection referred to as the "Clearinghouse").

"(2) APPLICATION AND AWARD BASIS.—Each entity desiring to establish and operate the Clearinghouse authorized by this subsection shall submit an application to the Secretary at such time, in such manner and accompanied by such information as the Secretary may reasonably require. The grant or contract awarded pursuant to paragraph (1) shall be made on a competitive, merit basis.

"(3) DURATION.—The grant or contract awarded under this section shall be awarded for a period of 5 years and shall be reviewed by the Secretary no later than 30 months from the date the grant or contract is awarded.

"(4) USE OF FUNDS.—The grant awarded under this subsection shall be used to—

"(A) maintain a permanent repository of mathematics and science education instructional materials and programs for elementary and secondary schools, including middle schools, (including, to the extent practicable, all materials and programs developed with Federal and non-Federal funds, such as instructional materials developed by the Department of Education, materials developed by State and national mathematics and science programs assisted under this part, and other instructional materials) for use by the regional consortiums established under subpart 2 of this part and by the general public;

"(B) compile information on all mathematics and science education programs administered by each Federal agency or department;

"(C) disseminate information, programs, and instructional materials to the public, dissemination networks, and the regional consortiums under subpart 2 of this part; and

"(D) coordinate with identifiable and existing data bases containing mathematics and science curriculum and instructional materials, including Federal and non-Federal data bases.

"(5) SUBMISSION TO CLEARINGHOUSE.—Each Federal agency or department which develops mathematics or science education instructional material or programs, including the National Science Foundation, and the Department of Education, shall submit to the Clearinghouse copies of such material or programs.

"(6) PEER REVIEW.—The Secretary shall establish a peer review process to select the recipient of the award under this subsection.

"(7) STEERING COMMITTEE.—The Secretary may appoint a steering committee to recommend policies and activities for the Clearinghouse.

"(8) APPLICATION OF COPYRIGHT LAWS.—Nothing in this subsection shall be construed to allow the use or copying, in any media, of any material collected by the Clearinghouse that is protected under the copyright laws of the United States unless the permission of the owner of the copyright is obtained. The Clearinghouse, in carrying out the provisions of this subsection, shall ensure compliance with the provisions of title 17 of the United States Code.

"(e) MODEL PROGRAMS FOR INSTRUCTION AND TRAINING IN THE USE OF COMPUTERS.—

"(1) GRANTS AUTHORIZED.—The Secretary may make grants to model programs for training and instruction in the use of computers as part of the mathematics and science curriculum of elementary and secondary schools to pay the Federal share of the cost of improving and expanding such programs.

"(2) FEDERAL SHARE.—(A) Except as provided in subparagraph (C), the Federal share of the cost of improving and expanding a model program under this subsection shall not exceed 50 percent of such cost.

"(B) Not less than 25 percent of the non-Federal share of the cost of improving and expanding a model program under this subsection shall be in cash.

"(C) The Secretary may waive the application of this paragraph in the case of any model program operated by a school that demonstrates an inability to obtain funds from non-Federal sources for the program.

"(3) PRIORITY.—In awarding grants under this subsection, the Secretary shall give priority to applicants that demonstrate the ability to—

"(A) develop a program that can be applied nationally;

"(B) include a shared commitment from a combination of local parties, such as teachers, the business community, and local educational agencies;

"(C) provide teacher training programs in elementary and secondary schools, including middle schools, that are designed to improve the quality of mathematics and science instruction through the use of computers as an instructional tool;

"(D) integrate higher order analytical and problem-solving skills into mathematics and science curricula; and

"(E) provide interactive and manipulative application as part of the instructional delivery system.".

SEC. 205. REGIONAL MATHEMATICS AND SCIENCE EDUCATION CONSORTIUMS.

(a) AMENDMENT TO TEXT.—Part A of the Dwight D. Eisenhower Mathematics and Science Education Act (20 U.S.C. 2981 et seq.) is amended—

(1) by inserting before section 2003 the following:

"Subpart 1—State Grants and National Programs";

and

(2) by inserting after section 2012 the following:

"Subpart 2—Regional Mathematics and Science Education Consortiums

20 USC 2994.

"SEC. 2016. PROGRAM ESTABLISHED.

"(a) IN GENERAL.—

"(1) GRANTS AUTHORIZED.—The Secretary, in consultation with the Director, is authorized to award grants or contracts to eligible entities to establish and operate regional mathematics and science education consortia for the purpose of—

"(A) disseminating exemplary mathematics and science education instructional materials; and

"(B) providing technical assistance for the implementation of teaching methods and assessment tools for use by elementary and secondary school students, teachers and administrators.

"(2) NUMBER.—The Secretary shall, in accordance with the provisions of this section, award at least 1 grant or contract to an eligible entity in each region.

"(3) SPECIAL RULE.—In any fiscal year, if the amount appropriated pursuant to the authority of section 2023 is less than $4,500,000, then the Secretary may waive the provisions of paragraph (2) and award grants or contracts of sufficient size, scope and quality to carry out the provisions of this section.

"(b) GRANT TERM AND REVIEW.—Grants under this subpart shall be awarded for a period of not more than 5 years and shall be reviewed before the end of the 30-month period beginning on the date the grant is awarded. Grants shall be awarded before the end of the 12-month period beginning on the date of the enactment of an Act making appropriations to carry out the provisions of this subpart.

"(c) AMOUNT.—In making grants under this subpart, the Secretary shall assure that there is a relatively equal distribution of the funds made available among the regions, but the Secretary may award additional funds to a regional consortium on the basis of population and geographical conditions of the region being served.

"SEC. 2017. USE OF FUNDS. 20 USC 2994a.

"Funds provided under this subpart may be used by a regional consortium, under the direction of a regional board established pursuant to section 2019, to—

"(1) identify, adapt, disseminate, and implement mathematics and science education instruction materials, teaching methods, and assessment tools for use by elementary and secondary school students;

"(2) assist, train and provide technical assistance to classroom teachers, administrators, and other educators to identify, implement or adapt the instructional materials, teaching methods and assessment tools described in paragraph (1);

"(3) provide for the training of classroom teachers to enable such teachers to instruct other teachers, administrators, and educators in the use of the instructional materials, teaching methods and assessment tools described in paragraph (1) in the classroom;

"(4) work with classroom teachers in the identification and adaptation of such instructional materials, teaching methods, and assessment tools for use in classrooms within the region;

"(5) assist classroom teachers, where appropriate, in securing training to enhance such teachers' subject knowledge and teaching skills in the areas of science and mathematics education;

"(6) when necessary, provide financial assistance to enable teachers and other educators to attend and participate in the activities of the regional consortium;

"(7) implement programs and activities designed to meet the needs of groups that are underrepresented in, and underserved by, mathematics and science education;

"(8) help State and local educational agencies or consortia thereof assess the need for and the desirability of regional mathematics and science academies;

"(9) develop and disseminate early childhood education mathematics and science instructional materials;

"(10) develop intergenerational projects to train senior citizen volunteers in the implementation of interactive science processes and activities for use by elementary and secondary school students;

"(11) disseminate information regarding informal mathematics and science education activities and programs offered by Federal agencies and private or public agencies and institutions within the region;

"(12) provide technical assistance in order to maximize the effectiveness of such instructional materials and programs and fulfill the instructional goals of the recipients of such materials and programs;

"(13) collect data on activities assisted under this subpart in order to evaluate the effectiveness of the activities of the regional consortiums;

"(14) if feasible, maintain on-line computer networks with all regional consortiums and the National Clearinghouse for Science and Mathematics Education Materials established under section 2012(e);

"(15) assist local and State educators in identifying science equipment needs; and

"(16) coordinate activities carried out by the regional consortium with activities carried out by the appropriate regional education laboratory supported under section 405(d)(4)(A)(i) of the General Education Provisions Act.

20 USC 2994b.

"SEC. 2018. APPLICATION AND REVIEW.

"(a) IN GENERAL.—Each eligible entity desiring to receive a grant under this subpart shall submit an application to the Secretary at such time, in such manner, and accompanied by such additional information as the Secretary may reasonably require. Each such application shall—

"(1) demonstrate that the eligible entity has demonstrated expertise in the fields of mathematics and science education;

"(2) demonstrate that the eligible entity shall implement and disseminate mathematics and science education instructional materials, teaching methods, and assessment tools through a consortium of the region's mathematics and science education organizations and agencies;

"(3) demonstrate that the eligible entity shall carry out the functions of the regional consortium;

"(4) describe the activities for which assistance is sought;

"(5) demonstrate that the eligible entity shall implement and disseminate mathematics and science education instructional materials, teaching methods and assessment tools;

"(6) demonstrate that emphasis will be given to programs and activities designed to meet the needs of groups that are underrepresented in, and underserved by, mathematics and science education;

"(7) describe steps to be taken to provide for the equitable participation of children and teachers from private elementary and secondary schools consistent with section 2010;

"(8) demonstrate that the business community in the region served by the regional consortium will play an integral role in designing and supporting the regional consortium's work;

"(9) demonstrate that the eligible entity will consider the resources of existing Star Schools consortia established pursuant to the Star Schools Program Assistance Act in carrying out the provisions of this part, where appropriate; and

"(10) assure that the entity will conduct its activities and supervise its personnel in a manner that effectively ensures compliance with the copyright laws of the United States.

"(b) APPROVAL OF APPLICATION.—

"(1) IN GENERAL.—The Secretary shall approve or disapprove applications submitted pursuant to subsection (a) in accordance with the criteria and procedures established under paragraph (2).

"(2) PROCEDURES AND CRITERIA.—The Secretary shall develop procedures and criteria designed to ensure that grants are awarded on the basis of merit as determined by the competitive peer review process described in paragraph (3).

"(3) NATIONAL PANEL.—(A) The Secretary, in consultation with the Director, shall establish a national panel, or to the extent necessary, panels, to submit to the Secretary recommendations for awards of grants under this subpart. The Secretary shall appoint the members of such panel or panels.

"(B) Each panel appointed as required by subparagraph (A) shall include participation, to the extent feasible, from each region.

"SEC. 2019. REGIONAL BOARDS. 20 USC 2994c.

"(a) IN GENERAL.—Each eligible entity receiving a grant or contract under this subpart shall establish a regional board to oversee the administration and establishment of program priorities for the regional consortium established by such eligible entity. Such regional board shall be broadly representative of the agencies and organizations participating in the regional consortium.

"(b) PROHIBITION ON USE OF FEDERAL FUNDS.—No Federal funds may be used for the establishment or operation of a regional board required by subsection (a).

"SEC. 2020. PAYMENTS; FEDERAL SHARE; NON-FEDERAL SHARE. 20 USC 2994d.

"(a) PAYMENTS.—The Secretary shall pay to each eligible entity having an application approved under section 2018 the Federal share of the cost of the activities described in the application.

"(b) FEDERAL SHARE.—For purposes of subsection (a), the Federal share—

"(1) for the first and second years in which an eligible entity receives assistance shall be 80 percent;

"(2) for the third such year shall be 75 percent;

"(3) for the fourth such year shall be 65 percent; and

"(4) for the fifth and each such succeeding year shall be 50 percent.

"(c) NON-FEDERAL SHARE.—The non-Federal share of the cost of activities described in the application submitted pursuant to this section may be in cash or in kind, fairly evaluated.

"SEC. 2021. EVALUATION. 20 USC 2994e.

"(a) EVALUATION REQUIRED.—The Secretary, through the Office of Educational Research and Improvement, shall collect sufficient data on, and evaluate the effectiveness of, the activities of each regional consortium.

"(b) ASSESSMENT.—The evaluations described in paragraph (1) shall include an assessment of the effectiveness of the regional consortium in meeting the needs of the schools, teachers, administrators and students in the region.

"(c) REPORT.—At the end of each grant or contract period, the Secretary shall submit to Congress a report on the effectiveness of the programs conducted at each regional consortium.

20 USC 2994f.

"SEC. 2022. DEFINITIONS.

"For purposes of this subpart:

"(1) The term 'eligible entity' means—

"(A) a private nonprofit organization of demonstrated effectiveness;

"(B) an institution of higher education;

"(C) an elementary or secondary school;

"(D) a State or local educational agency;

"(E) a regional educational laboratory in consortium with the research and development center established under section 405(d)(4)(A) of the General Education Provisions Act; or

"(F) any combination of the entities described in subparagraphs (A) through (E);

with demonstrated expertise in mathematics and science education.

"(2) The term 'region' means a region of the United States served by a regional education laboratory that is supported by the Secretary pursuant to section 405(d)(4)(A)(i) of the General Education Provisions Act.

"(3) The term 'regional consortium' means each regional mathematics and science education consortium established pursuant to section 2016.

20 USC 2994g.

"SEC. 2023. AUTHORIZATION OF APPROPRIATIONS.

"There are authorized to be appropriated to carry out the provisions of this subpart $17,000,000 for the fiscal year 1991, and such sums as may be necessary for each of the fiscal years 1992 and 1993.

"PART C—GENERAL PROVISIONS".

(b) TECHNICAL AMENDMENTS.—

(1) CONFORMING AMENDMENTS.—Sections 2003(a), 2004(a)(1)(A), 2004(a)(1)(B), 2004(a)(5), 2004(b), 2005(a)(2)(A)(ii), 2006(a), 2006(b)(1), 2006(d)(2), 2007(a), 2007(d)(2), 2008(a), 2008(b)(2)(D), 2008(b)(3), 2008(b)(4)(A), 2009(a), 2009(b)(2), 2009(b)(3), 2009(c), 2010(a), 2010(b), 2011(a), and 2011(b) of the Dwight D. Eisenhower Mathematics and Science Education Act and the matter following section 2005(a)(2)(A)(ii) of such Act, are each amended by striking "part" and inserting "subpart".

20 USC 2983-2991.

(2) DEFINITIONS.—The heading of section 2013 of the Dwight D. Eisenhower Mathematics and Science Education Act (20 U.S.C. 2993) is amended by striking "2013" and inserting "2031".

20 USC 2993, 2996.

20 USC 2982 note.

SEC. 206. FEDERAL ADMINISTRATION.

(a) REPORT ON SOURCES OF FEDERAL AID.—The Secretary shall, in consultation with the heads of other appropriate Federal agencies,

prepare a report listing all sources of Federal aid for mathematics and science education.

(b) DEADLINE FOR REPORT.—The Secretary shall submit the report required by paragraph (1) to the Committee on Education and Labor of the House of Representatives and to the Committee on Labor and Human Resources of the Senate not later than March 1, 1992. The Secretary shall also provide such report to each State educational agency and make such report available to the public.

Public information.

PART B—INNOVATIVE TECHNOLOGIES

SEC. 221. EXPANDING THE USES OF INNOVATIVE TECHNOLOGIES FOR MATHEMATICS AND SCIENCE INSTRUCTION.

20 USC 5311.

(a) COMPUTER TECHNOLOGIES.—

(1) PROGRAM AUTHORIZED.—The Director shall establish research programs on the use of computers and related technologies in basic mathematics, science, and technology instruction.

(2) ELIGIBLE APPLICANTS.—In carrying out the program under this subsection, the Director shall establish a merit review process to make awards on the basis of—

(A) the potential of the proposal to improve the effectiveness and productivity of basic mathematics and science education;

(B) the potential of the proposal to involve the classroom teacher in the design of the program and to provide teacher training for optimum effectiveness in the classroom; and

(C) the capability of the entity developing the innovative computer technology to provide broad and efficient dissemination of the technology to schools.

(3) USE OF AWARDS.—Funds awarded under this subsection may be used for—

(A) research and development of curriculum;

(B) development of computer software; and

(C) research and development of other promising technologies for educational applications as specified by the Director.

(b) DISTANCE LEARNING.—

(1) PROGRAM AUTHORIZED.—The Director shall establish programs to promote the use of interactive telecommunications linkages to provide mathematics and science education in the elementary and secondary classroom.

Telecommunications.

(2) ELIGIBLE APPLICANTS.—In carrying out the program under this subsection, the Director shall establish a merit review process to make awards to partnerships which may involve State educational agencies, local educational agencies, public television agencies, institutions of higher education, and other relevant entities, on the basis of—

(A) the potential of the proposal to improve the delivery of quality mathematics and science instruction to underserved rural and urban areas; and

(B) the potential of the proposal to provide teacher training programs for optimum effectiveness in the classroom.

(3) USE OF AWARDS.—Funds awarded under this subsection may be used for—

(A) the research and development of software and hardware technologies necessary to implement interstate and intrastate interactive linkages with several school districts;

(B) research on two-way audio and video interactive telecommunications and computer linkages designed to be used in conjunction with each other;

(C) research and development of curriculum;

(D) teacher training in the use of technologies developed under this section; and

(E) other appropriate telecommunications research projects that will improve mathematics and science education in underserved areas.

(c) SPECIAL RULE.—In carrying out the provisions of this section, the Director shall—

Rural areas.
Urban areas.

(1) pay particular attention to the needs of rural and urban areas which are underserved in fields of mathematics and science instruction or which have a high percentage of students receiving services under chapter 1 of title I of the Elementary and Secondary Education Act of 1965;

(2) give special consideration to proposals to extend or adapt for wider applications technologies, and associated educational materials, that the eligible applicant making the proposal has demonstrated to be effective in limited applications;

(3) ensure coordination between the National Science Foundation's programs for support of teacher training and programs developed under this section, with the objective of training teachers in the use of promising educational technologies; and

(4) consult, cooperate and coordinate with analogous programs and policies of other Federal agencies.

(d) MATCHING REQUIREMENT.—Awards shall be made under this section only to eligible applicants that will contribute resources, in cash or in kind, from non-Federal sources in an amount equal to 25 percent of the Federal award.

(e) COORDINATION.—The Director shall work with the Secretary to encourage use of technologies and educational materials developed under this section in Department of Education model programs established under section 2012 of the Dwight D. Eisenhower Mathematics and Science Education Act for instruction and training in the use of computers. In addition, the Director shall ensure that programs and activities developed under this section are reported to the Clearinghouse established under section 2012 of such Act for subsequent dissemination through the regional consortia established under subpart 2 of such Act.

(f) PLANNING ACTIVITIES.—The Office of Science and Technology Policy shall ensure that planning activities for education and human resource development and for high performance computing within the Federal Coordinating Council for Science, Engineering, and Technology include consideration of the use of national computer networks for educational purposes, including distance learning and dissemination of curricular materials.

PART C—SCIENCE-TECHNOLOGY CENTERS

20 USC 5321.

SEC. 231. SCIENCE-TECHNOLOGY CENTERS.

(a) IN GENERAL.—

(1) AWARDS AUTHORIZED.—The Director is authorized to make awards to science-technology centers for—

(A) development of more effective, hands-on, interactive mathematics, science and technology programs and activities;

(B) replication or dissemination of effective programs and activities, giving special attention to the needs of female and minority children and economically disadvantaged areas; and

(C) development of new science-technology centers, including support for such centers to work with established science-technology centers to acquire proven educational programs.

(2) AWARD BASIS.—Funds awarded pursuant to this section shall be awarded on a competitive, merit review basis.

(3) CRITERIA.—Criteria for making awards under paragraph (1) may include—

(A) the potential for the educational program to have a significant impact on both formal and informal science education;

(B) the capability of the recipient institution to disseminate the material broadly;

(C) the extent of matching funds provided from non-Federal sources;

(D) the experience and qualifications of the staff of the recipient institution; and

(E) the overall excellence of the proposed program.

(b) SPECIAL CONSIDERATION.—In making awards pursuant to this section the Director shall give special consideration to programs designed primarily for elementary school-aged children. Infants and children.

(c) GEOGRAPHIC DISTRIBUTION.—In making awards pursuant to this section, the Director shall, to the extent practicable, ensure an equitable geographic distribution of such awards.

(d) USE OF CLEARINGHOUSE.—The Director shall report on such programs and activities developed under this section to the Clearinghouse established under section 2012 of the Dwight D. Eisenhower Mathematics and Science Education Act for subsequent dissemination through the regional consortia established under subpart 2 of such Act. Reports.

(e) AUTHORIZED ACTIVITIES.—Awards made under this section may be used for—

(1) scientific or technological exhibits developed for public display, either in a science-technology center or sponsored by a science-technology center but displayed in another facility;

(2) educational activities, such as curriculum development, teacher training programs, and student educational kits, developed for use by teachers for students; and

(3) other formal or informal science educational programs developed by science-technology centers.

(f) DEFINITIONS.—As used in this section—

(1) the term "informal science education" means those aspects of science education that occur outside the school classroom, usually voluntary, recreational, and interdisciplinary in nature, that are not directed by a specific curriculum;

(2) the term "science" means all physical, biological, and social sciences, mathematics, and engineering; and

(3) the term "science-technology center", which may include museums, planetariums, libraries and zoos, means a nonprofit institution open to the general public providing interactive exhibits, demonstrations, and informal science education designed to—

(A) further public understanding of science and technology; and

(B) illustrate how such science and technology interacts with society.

Such institutions may also be involved in formal educational activities.

PART D—GRANTS TO EDUCATIONAL AGENCIES FOR SYSTEMIC REFORM OF MATHEMATICS AND SCIENCE EDUCATION

20 USC 5331.

SEC. 241. SYSTEMIC REFORM OF MATHEMATICS AND SCIENCE.

(a) IN GENERAL.—The Director, in consultation with the Secretary, is authorized to make awards to States or State educational agencies for projects that implement system-wide improvement in elementary or secondary school mathematics and science education.

(b) IMPROVEMENT COMPONENTS.—Each project for which an award is made pursuant to subsection (a) shall include the following components:

(1) increased student achievement in mathematics and science;

(2) improvements in organizational structure and decision-making;

(3) modifications in the provision and allocation of resources regarding mathematics and science instruction;

(4) improvement in the recruitment, retention and continuing professional development of teachers and other educators who instruct mathematics and science;

(5) improved mathematics and science curriculum content and learning goals; and

(6) use of other Federal funds including funds provided for the Dwight D. Eisenhower Mathematics and Science Education Act.

(c) SPECIAL RULE.—In making awards pursuant to subsection (a), the Director shall—

(1) to the extent practicable, ensure an equitable geographic distribution of such awards; and

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(2) give priority to States or State educational agencies whose improvement plans place a strong emphasis on increasing the academic achievement of females and minority students in mathematics and science.

PART E—TECHNICAL AMENDMENT

SEC. 251. TECHNICAL AMENDMENT.

42 USC 1873.

Section 14(f) of the National Science Foundation Act of 1950 is amended by inserting "or education" after "research".

SEC. 252. NATIONAL CENTER FOR EDUCATION STATISTICS.

Paragraph (4) of section 406(d) of the General Education Provisions Act (20 U.S.C. 1221e-1(d)) is amended by adding at the end the following:

"(G)(i) This paragraph shall not apply to—

"(I) the survey required by section 1303(c) of the Higher Education Amendments of 1986; or

"(II) to any longitudinal study concerning access, choice, persistence progress, or attainment in postsecondary education.

"(ii) Any person, except those sworn to observe the limitation of this subsection, who uses any data as described in clause (i) provided by the Center, in conjunction with any other information or technique (including de-encryption), to identify any individual student, teacher, administrator, or other person and who discloses, publishes, or uses for a purpose other than that for which it was collected, or who otherwise violates clause (i) or (ii) of subparagraph (A), shall be fined under title 18, United States Code, or imprisoned not more than 5 years, or both.

"(iii) No employee or staff member of the Center or of an institution of higher education may be found criminally liable under subparagraph (C), based on a violation of subparagraph (A) or clause (i), if such employee or staff member has taken reasonable precautions, consistent with the purpose of this section, to ensure the confidentiality of data made available to the public.

"(H) Nothing in this paragraph shall restrict the right of the Comptroller General of the United States to gain access to any reports or other records, including information identifying individuals, in the Center's possession; except that the same restrictions on disclosure that apply to the Center under subparagraphs (B) and (G) shall apply to the General Accounting Office.".

SEC. 253. AMENDMENT OF JAMES MADISON MEMORIAL FELLOWSHIP ACT.

Section 813(a)(4) of the James Madison Memorial Fellowship Act is amended by striking the second sentence thereof. 20 USC 4512.

TITLE III—HIGHER EDUCATION

Colleges and Universities.

PART A—GRADUATE FELLOWSHIPS AND TRAINEESHIPS

SEC. 301. STATEMENT OF PURPOSE. 20 USC 5341.

It is the purpose of this part to avert the substantial shortage of American scientists and engineers projected to occur over the next 15 years by significantly increasing the number of graduate fellowships awarded by the National Science Foundation and to institute a program of graduate traineeships.

SEC. 302. GRADUATE FELLOWSHIPS. 20 USC 5342.

(a) IN GENERAL.—The Director is authorized to increase the number of graduate fellowships awarded by the Foundation, so that, in fiscal year 1993 and each fiscal year thereafter, at least 1,200 fellowships are awarded annually.

(b) SPECIAL RULE.—In awarding fellowships pursuant to subsection (a), the Director shall ensure that a substantially increasing number of fellowships shall be awarded to women and minorities in fiscal year 1991 and in each succeeding fiscal year through fiscal year 2000.

(c) GRADUATE FELLOWSHIPS.—Section 10 of the National Science Foundation Act of 1950 is amended in the second sentence by 42 USC 1869.

striking "or nationals" and inserting ", nationals or lawfully admitted permanent resident aliens".

20 USC 5343.

SEC. 303. GRADUATE TRAINEESHIPS.

(a) IN GENERAL.—The Director is authorized to carry out a competitive, merit-based program of making awards to institutions of higher education to enable such institutions to conduct traineeship programs which encourage promising students, especially women and minorities, to continue their education and research in mathematics, science and engineering.

(b) SPECIAL RULE.—In making awards pursuant to subsection (a), the Director shall, to the extent practicable, ensure—

(1) an equitable geographic distribution of such grants;

(2) that institutions of higher education receiving such awards demonstrate experience in, and a commitment to, educating and graduating a significant number of women and minority students in mathematics, science and engineering; and

(3) that special consideration is given to institutions of higher education that have demonstrated progress and an ongoing commitment to upgrading their capabilities to perform high quality research, and are not among the institutions currently receiving a large number of students with National Science Foundation graduate fellowships.

PART B—CENTERS OF EXCELLENCE

20 USC 5351.

SEC. 311. CENTERS OF EXCELLENCE OF UNDERGRADUATE TEACHING.

(a) ESTABLISHMENT.—The Director shall establish a program of making awards to encourage institutions of higher education to improve, and to give greater attention to, undergraduate instruction in science, mathematics and engineering. Awards under this section shall be made on a competitive, merit review basis to faculty with a record of excellence in teaching using the criteria described in subsection (c). Awards under this section shall be for a 3-year period, and the amount of each award shall be comparable to those under the Presidential Young Investigator program.

(b) USE OF FUNDS.—Awards made under this section shall be used to improve the quality of undergraduate instruction at the recipient institution. Awards made under this section may be used for such purposes as—

(1) development of innovative curriculum or teaching methods, including interdisciplinary courses and courses for nonscience majors;

(2) purchase of educational equipment for use by students and faculty;

(3) support for research and professional activities related to undergraduate education; and

(4) support of teaching fellows.

(c) CRITERIA.—Awards under this section shall be made on the basis of—

(1) the commitment of the institution to improve undergraduate education in science, mathematics and engineering and to assign appropriate importance to undergraduate instruction in determining faculty compensation and as a criterion for faculty promotion;

(2) the teaching ability and accomplishments of the faculty member applying for the award, including evidence that the

applicant has remained current with research developments; and

(3) the impact that the award will have on improving the quality of undergraduate instruction.

(d) DESIGNATION.—Institutions receiving grants under this section shall be designated "Centers of Excellence for Undergraduate Teaching".

TITLE IV—WOMEN AND MINORITIES IN MATHEMATICS, SCIENCE AND ENGINEERING

SEC. 401. STATEMENT OF PURPOSE. 20 USC 5361.

It is the purpose of this title to expand and enhance National Science Foundation program activities that are specifically focused on increasing the educational and professional participation of women and minorities in the fields of mathematics, science and engineering.

SEC. 402. DISTINGUISHED VISITING PROFESSORS. 20 USC 5362.

The Director is authorized to make awards to institutions of higher education to enable such institutions to support distinguished women and minority faculty members in mathematics, science and engineering to enable such faculty members to serve as "Distinguished Visiting Professors" at academic institutions that do not have sufficient resources to attract and retain faculty members of such professional stature on a permanent basis.

SEC. 403. FACULTY AWARDS FOR WOMEN AND MINORITIES. 20 USC 5363.

The Director is authorized to make awards to institutions of higher education, other than research universities, to enable such institutions to recruit and retain women and minority faculty members in the fields of mathematics, science and engineering, and to obtain equipment and facilities necessary for the research activities of such faculty members.

SEC. 404. ALLIANCES FOR MINORITY PARTICIPATION. 20 USC 5364.

(a) IN GENERAL.—The Director is authorized to make awards to institutions of higher education to enable such institutions of higher education to establish or maintain alliances, partnerships, or other cooperative arrangements between institutions of higher education with predominately minority enrollments and institutions of higher education with high quality research programs in mathematics, science or engineering.

(b) SPECIAL RULE.—In making awards pursuant to this title, the Director shall, to the extent practicable, ensure—

(1) an equitable geographic distribution of such awards; and

(2) that institutions of higher education receiving such awards demonstrate experience in, and a commitment to, educating and graduating a significant number of women and minority students from programs in mathematics, science and engineering.

TITLE V—EDUCATION COORDINATION AND DEPARTMENT OF ENERGY PROGRAMS

20 USC 5371.

SEC. 501. SCIENCE EDUCATION REPORT.

(a) REPORT REQUIRED.—The Director of the Office of Science and Technology Policy, through the Federal Coordinating Council on Science, Engineering, and Technology, shall prepare a report on science, mathematics, and engineering education to be submitted to Congress within 1 year after the date of enactment of this Act. The report shall include—

(1) a description of current Federal science, mathematics, and engineering education programs at all education levels;

(2) any specific statutory changes necessary to further assist the agencies' mathematics and science education goals; and

(3) a strategic plan for an interagency program to enhance science, mathematics, and engineering education, including—

(A) a statement of program goals;

(B) a description of implementation steps required to achieve such goals;

(C) a strategy for taking advantage of the strengths of Federal research and development facilities related to science, mathematics, and engineering education;

(D) provisions for outreach to teachers and others with direct access to students;

(E) a system for evaluating program effectiveness, including criteria for evaluation;

(F) criteria and procedures to facilitate and expedite either the loan or transfer of title to surplus equipment to schools, school districts, and colleges and universities;

(G) recommendations on how to enhance exchange of employees among agencies to share expertise in mathematics and science education; and

(H) mechanisms to coordinate the activities of the agencies which will implement the plan.

(b) PREPARATION AND UPDATING.—Preparation of the plan required by subsection (a)(3) shall, at a minimum, include representatives of the Departments of Energy and Education, and the National Science Foundation. In subsequent years, the plan required by subsection (a)(3) shall be updated and submitted to Congress annually at the time of the President's budget request and shall include the funding levels in that budget for each agency to carry out each agency's portion of the plan.

20 USC 5372.

SEC. 502. GENERAL EDUCATION REPORT.

The Department of Defense, the Department of Energy, the Department of Agriculture, the Department of Labor, the Department of Health and Human Services, the Department of Transportation, the Department of Justice, the National Aeronautics and Space Administration, the Environmental Protection Agency, and the Department of Commerce shall each prepare and submit to the Secretary of Education, within 9 months of the enactment of this Act, a report on all educational activities supported, excluding activities described in section 501. The Secretary shall compile this

information and report to Congress within 1 year after the date of enactment of this Act. The report shall include—

(1) a summary of current education programs at all levels; and

(2) any specific statutory changes necessary to further assist the agencies' education goals.

SEC. 503. DEPARTMENT OF ENERGY PROGRAMS. 20 USC 5373.

(a) AUTHORIZATION.—

(1) IN GENERAL.—The Secretary of Energy is authorized to—

(A) provide paid administrative leave for employees of the Department of Energy or its research and development facilities who volunteer to interact with schools, colleges, universities, teachers, or students for the purpose of science, mathematics, and engineering education;

(B) establish a volunteer talent pool of scientists, mathematicians, and engineers who have retired from the Department of Energy or its research and development facilities to—

(i) serve as "Scientists in Residence" at schools and school districts for the purpose of assisting teachers with activities such as experiments, lectures, or materials;

(ii) serve as requested, as a science counselor to students; and

(iii) otherwise assist science, mathematics, and engineering classes;

(C) establish a Young Americans' Summer Science Camp Program to provide secondary school students with a hands-on science experience as well as exposure to working scientists and career counseling; and

(D) establish a program for mathematics and science teachers, to provide such teachers serving large numbers of disadvantaged students with new strategies for mathematics and science instruction.

(2) SPECIAL RULE.—In carrying out the provisions of paragraph (1)(B) the Secretary of Energy, wherever possible acting through the Department's research and development facilities, shall identify and match schools and school districts with retired scientists, mathematicians, and engineers.

(b) FACILITIES; NON-FEDERAL FUNDS.—Education activities assisted under this section may be conducted through Department of Energy research and development facilities. The Secretary is authorized to accept non-Federal funds to finance education activities.

(c) LIMITATIONS.—

(1) NATIONAL DEFENSE PRODUCTION ACTIVITIES.—Nothing in this section shall apply to activities of the Department of Energy or its contractors that are funded as national defense production activities.

(2) SPECIAL RULE.—Nothing in this section shall be construed to affect mathematics, science, and engineering education programs administered through the Department of Energy other than the Office of Energy Research.

(d) TERMINATION PROVISION.—The provisions of this section shall not take effect if a substantially identical program is included in the National Defense Authorization Act for Fiscal Year 1991.

(e) DEFINITION.—For the purpose of this section, the term "research and development facilities" means, except as provided in subsection (c)(1), all Department of Energy single purpose and multipurpose National Laboratories and research and development facilities and programs, and any other facility or program operated by a contractor funded from the Office of Energy Research.

TITLE VI—SCIENCE SCHOLARSHIPS

PART A—NATIONAL SCIENCE SCHOLARS PROGRAM

20 USC 5381.

SEC. 601. PURPOSE; APPROPRIATIONS AUTHORIZED.

(a) PURPOSE.—It is the purpose of this part—

(1) to establish a National Science Scholars Program to recognize student excellence and achievement in the physical, life, and computer sciences, mathematics, and engineering;

(2) to provide financial assistance to students under paragraph (1) to continue their postsecondary education in such fields of study at sustained high levels of performance;

(3) to contribute to strengthening the leadership of the United States in such fields;

(4) to strengthen the United States mathematics, science, and engineering base by offering opportunities to pursue postsecondary education in life, physical, and computer sciences, mathematics, and engineering;

(5) to encourage role models in scientific, mathematics, and engineering fields for young people;

(6) to strengthen the United States mathematics, scientific, and engineering potential by encouraging equal participation of women with men in mathematics, scientific, and engineering fields; and

(7) to attract talented students to teaching careers in mathematics and science in elementary and secondary schools.

(b) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Department of Education $4,500,000 for fiscal year 1991 for awards to National Science Scholars.

20 USC 5382.

SEC. 602. SCHOLARSHIPS AUTHORIZED.

(a) PROGRAM AUTHORITY.—The Secretary is authorized, in accordance with the provisions of this part, to carry out a program of awarding scholarships to students for the study of the physical, life, or computer sciences, mathematics, or engineering, who—

(1) are selected by the President;

(2) have demonstrated outstanding academic achievement in the physical, life, or computer sciences, mathematics, or engineering; and

(3) show promise of continued outstanding academic performance in such field of study.

(b) PERIOD OF AWARDS.—

(1) PERIOD OF INITIAL AWARD.—A student who satisfies the requirements of section 604(a) may receive a scholarship, for a period of 1 academic year, for the first year of undergraduate study at an institution of higher education.

(2) CONTINUATION AWARDS.—A student who satisfies the requirements of section 604(b) may receive additional scholar-

ships, each awarded for a period of 1 academic year, in order to complete his or her undergraduate course of study. A student may receive additional scholarships for not more than 3 academic years of undergraduate study, except that, in the case of a student who is enrolled in an undergraduate course of study that requires attendance for 5 academic years, the student may receive additional scholarships for not more than 4 academic years of undergraduate study.

(c) USE AT ANY INSTITUTION PERMITTED.—A student awarded a scholarship under this part may attend any institution of higher education, as defined in section 1201(a) of the Higher Education Act of 1965.

(d) NATIONAL SCIENCE SCHOLARS.—Students awarded scholarships under this part shall be known as "National Science Scholars".

SEC. 603. SELECTION OF SCHOLARS. 20 USC 5383.

(a) SELECTION CRITERIA FOR INITIAL AWARDS.—

(1) SELECTION CRITERIA.—The Director of the National Science Foundation shall develop and submit to the Secretary proposed criteria to be used in the selection of National Science Scholars for initial year awards under section 602(b)(1). Such criteria shall provide for the selection of such scholars on the basis of potential to successfully complete a postsecondary program in the physical, life, or computer sciences, mathematics, or engineering, and on the basis of motivation to pursue a career in such fields. In addition, consideration may be given to the financial need of the individual, and to promoting participation by minorities and individuals with disabilities. The Director shall determine the proposed criteria for measuring the potential and motivation of nominees.

(2) PUBLICATION.—The Secretary and the Director shall agree to, and jointly publish in the Federal Register, appropriate selection criteria. Federal Register, publication.

(b) SELECTION PROCESS FOR INITIAL AWARDS.—

(1) NOMINATING COMMITTEE.—Each State desiring to qualify its students for selection as a National Science Scholar shall establish a nominating committee. Such committee shall be appointed by the chief State school officer or by an existing grant agency or panel designated by such officer, and shall be approved by the Secretary. The nominating committee shall be a broad-based committee composed of educators, scientists, mathematicians, and engineers, who shall serve as volunteers without compensation. Intergovernmental relations.

(2) NOMINATIONS.—The nominating committee in each State shall submit to the President the nominations of at least four individuals from each congressional district in the State, at least half of whom are female. Such selections shall be ranked in order of priority.

(3) SELECTION.—The President, after consultation with the Secretary and the Director of the National Science Foundation, shall select two National Science Scholars for each academic year from each congressional district, at least one of whom shall be female. President.

(4) ANNOUNCEMENT AND AWARD OF SCHOLARSHIPS.—The selection process shall be completed, and the announcement of the selection of National Science Scholars shall be made by the President prior to January 1st of each fiscal year. The Secretary

shall notify each Member of Congress of selections made from such Member's district and State before the public announcement by the President. Presentation of scholarships may be made in a public ceremony.

(5) CONGRESSIONAL DISTRICT.—For purposes of this subsection, the term "congressional district" includes the part or all of a State (within the meaning of section 1201(b) of the Higher Education Act of 1965) represented by a Member or Delegate of the House of Representatives, and includes the Commonwealth of the Northern Mariana Islands.

(c) CONTINUATION AWARDS.—The Secretary shall award additional scholarships under section 602(b)(2) to recipients of initial awards under section 602(b)(1) who the Secretary determines meet the requirements of section 604(b).

(d) DISBURSAL OF SCHOLARSHIP PROCEEDS.—Scholarship proceeds shall be disbursed on behalf of students who receive scholarships under this part to the institutions of higher education at which the students are enrolled. No scholarship proceeds shall be disbursed on behalf of a student until the student is enrolled at an institution of higher education.

(e) SPECIAL RULE.—The Director and the Secretary shall encourage the support and assistance of civic groups, the business community, professional associations, institutions of higher education, and others in providing scholarship assistance to National Science Scholarship finalists.

20 USC 5384.

SEC. 604. ELIGIBILITY OF SCHOLARS.

(a) REQUIREMENTS FOR INITIAL AWARD.—To be eligible to receive a scholarship under section 602(b)(1), a student shall—

(1) be scheduled to graduate from a public or private secondary school, or to obtain the equivalent of a certificate of graduation (as recognized by the State in which the student resides), during the school year in which the award is made;

(2) be a citizen or national of the United States or the entities set forth in section 603(b)(5), or be an alien lawfully admitted to the United States for permanent residence;

(3) have demonstrated outstanding academic achievement in secondary school in physical, life, or computer sciences, mathematics, or engineering;

(4) have been accepted for enrollment at an institution of higher education as a full-time undergraduate student (as determined by the institution); and

(5) have declared a major in 1 of the physical, life, or computer sciences, mathematics, or engineering, or provided a written statement to the State of his or her intent to major in 1 of these fields of study, if it is the policy of the institution at which the student has been accepted for enrollment that students not declare a major until a later point in their course of study.

(b) REQUIREMENTS FOR CONTINUATION AWARDS.—A student who has received a scholarship under section 602(b)(1) may receive a scholarship for a subsequent academic year of undergraduate education under section 602(b)(2) if the student—

(1) maintains a high level of academic achievement, as determined in accordance with the regulations of the Secretary;

(2) continues to major in, or provides a statement to the State as described in subsection (a)(5) of his or her continuing intent

to major in, one of the physical, life, or computer sciences, mathematics, or engineering; and

(3) continues to be enrolled at an institution of higher education as a full-time undergraduate student (as determined by the institution).

(c) WAIVER OF FULL-TIME ATTENDANCE REQUIREMENT.—The Secretary may waive the full-time attendance requirements in this section in unusual circumstances.

(d) FAILURE TO MEET ELIGIBILITY REQUIREMENTS.—In the event that the student fails to meet the requirements of this section, the student's eligibility to receive further scholarships (or scholarship proceeds) under this part shall be suspended in accordance with the regulations of the Secretary.

(e) REINSTATEMENT OF ELIGIBILITY.—The Secretary shall determine circumstances under which eligibility of a scholarship recipient under this part may be reinstated if the recipient seeks to reenter school after an interruption of schooling for personal reasons, including, but not limited to, pregnancy, child-rearing, and other family responsibilities.

(f) NOTIFICATION OF SECONDARY SCHOOLS.—The Secretary shall notify all public and private secondary schools and all institutions of higher education in each State annually of the availability of scholarships under this part.

SEC. 605. SCHOLARSHIP AMOUNT. 20 USC 5385.

(a) AMOUNT OF AWARD.—Except as provided in subsections (b) and (c), the amount of a scholarship awarded under this part for any academic year shall be $5,000.

(b) RELATION TO COST OF ATTENDANCE.—Notwithstanding subsection (a), the amount of a scholarship awarded under this part shall be reduced by the amount that the scholarship exceeds the student's cost of attendance, as defined in section 472 of the Higher Education Act of 1965. A scholarship awarded under this part shall not be reduced on the basis of the student's receipt of other forms of Federal student financial assistance, but shall be taken into account in determining the eligibility of the student for those other forms of Federal student financial assistance.

(c) ADJUSTMENTS FOR INSUFFICIENT APPROPRIATIONS.—In the event that funds available in a fiscal year are insufficient to fully fund all awards under this part, the amount paid to each student shall be reduced proportionately.

SEC. 606. SUMMER EMPLOYMENT OPPORTUNITIES FOR SCHOLARS. 20 USC 5386.

(a) PRIORITY FOR SUMMER EMPLOYMENT.—To the extent that they are otherwise qualified, students receiving scholarships under this part shall be given priority consideration for federally financed summer employment in federally funded research and development centers, that, to the maximum extent practicable, complements and reinforces the educational program of these students.

(b) FEDERAL AGENCY COOPERATION.—Federal agencies shall cooperate fully with the Secretary and participate actively in providing appropriate summer employment opportunities for such students.

PART B—ROBERT NOYCE SCHOLARSHIPS

20 USC 5401.

SEC. 611. ROBERT NOYCE SCHOLARSHIPS.

(a) PROGRAM AUTHORIZED.—There is established a scholarship program for students in a baccalaureate degree program in physical, life, or computer sciences, mathematics, or engineering who are willing to commit themselves to teaching elementary or secondary school mathematics or science.

(b) PERIOD OF AWARDS.—

(1) PERIOD OF INITIAL AWARD.—A student who satisfies the requirements of subsection (g)(1) may receive a scholarship, for a period of 1 academic year of undergraduate study at an institution of higher education.

(2) CONTINUATION AWARDS.—

(A) FIRST CONTINUATION AWARD.—A student who satisfies the requirements of subsection (g)(2) may receive an additional scholarship, awarded for a period of 1 academic year, in order to complete his or her undergraduate course of study.

(B) SECOND CONTINUATION AWARD.—An additional period of scholarship support, not to exceed 1 year, shall be available to recipients of scholarships under subsection (a) who have completed requirements for the baccalaureate degree but require additional education courses in order to obtain certification to teach.

(c) USE AT ANY INSTITUTION PERMITTED.—A student awarded a scholarship under this section may attend any institution of higher education.

(d) DESIGNATION.—The individuals awarded scholarships under subsection (a) shall be referred to as the "Robert Noyce Mathematics and Science Teacher Corps".

(e) SELECTION.—

(1) SELECTION PROCESS FOR INITIAL AWARDS.—

(A) SELECTION CRITERIA.—The Director shall develop and submit to the Secretary proposed application procedures and criteria to be used in the selection of nominees under this section. Such criteria shall provide for the selection of such nominees on the basis of academic merit and demonstrated accomplishment in physical, life, or computer science, mathematics, or engineering, and on the basis of motivation to pursue a career in science, mathematics, or engineering. In addition, consideration may be given to the financial need of the individual, and to promoting participation by minorities and individuals with disabilities.

Federal Register, publication.

(B) PUBLICATION.—The Secretary and the Director shall agree to, and jointly publish in the Federal Register, appropriate selection criteria.

(C) MERIT REVIEW PANEL.—Award recipients shall be nominated from among applicants by a merit review panel composed of 8 individuals, 4 of whom shall be appointed by the Director and 4 of whom shall be appointed by the Secretary. Members of the panel shall not be employees of the United States and shall serve as volunteers without compensation. Nominees shall be selected on the basis of selection criteria, which shall be developed and published

in accordance with subparagraphs (A) and (B). The panel shall rank the nominees in order of priority.

(D) AWARDING OF SCHOLARSHIPS.—The panel shall submit its nominees to the President, who shall, after consultation with the Director and the Secretary, award not more than 500 scholarships under subsection (a). President.

(2) CONTINUATION AWARDS.—The Secretary shall award additional scholarships to recipients of initial awards under this section who the Secretary determines meet the requirements of subsection (g)(2) or (b)(2)(B).

(f) DISBURSAL OF SCHOLARSHIP PROCEEDS.—Scholarship proceeds shall be disbursed on behalf of students who receive scholarships under this section to the institutions of higher education at which the students are enrolled. No scholarship proceeds shall be disbursed on behalf of a student unless the student is enrolled at an institution of higher education.

(g) ELIGIBILITY.—

(1) INITIAL ELIGIBILITY.—Only individuals who are—

(A) citizens or nationals of the United States, or who are aliens lawfully admitted to the United States for permanent residence;

(B) majoring in the physical, life, or computer sciences, mathematics, or engineering;

(C) in the last 2 years of a baccalaureate degree program; and

(D) enrolled in an institution of higher education as a full-time undergraduate student (as determined by the institution of higher education),

shall be eligible for awards under this section.

(2) REQUIREMENTS FOR FIRST CONTINUATION AWARDS.—A student who has received a scholarship under this section may receive a first continuation award under subsection (b)(2)(A) for a subsequent academic year of undergraduate education if the student—

(A) maintains a high level of academic achievement, as determined in accordance with the regulations of the Secretary;

(B) continues to major in one of the physical, life, or computer sciences, mathematics, or engineering; and

(C) continues to be enrolled at an institution of higher education as a full-time undergraduate student (as determined by the institution).

(h) WAIVER OF FULL-TIME ATTENDANCE REQUIREMENT.—The Secretary may waive the full-time attendance requirements in this section in unusual circumstances.

(i) FAILURE TO MEET ELIGIBILITY REQUIREMENTS.—In the event that the student fails to meet the requirements of this section, the student's eligibility to receive further scholarships (or scholarship proceeds) under this section shall be suspended in accordance with the regulations of the Secretary.

(j) REINSTATEMENT OF ELIGIBILITY.—The Secretary shall determine circumstances under which eligibility of a scholarship recipient under this section could be reinstated if the recipient seeks to reenter school after an interruption of schooling for personal reasons, including, but not limited to, pregnancy, child-rearing, and other family responsibilities.

(k) NOTIFICATION OF SCHOOLS.—The Secretary shall notify all institutions of higher education in the United States annually of the availability of scholarships under this section.

(l) SCHOLARSHIP AMOUNT.—

(1) AMOUNT OF AWARD.—Except as provided in paragraph (2), the amount of a scholarship awarded under this section for any academic year shall be $5,000.

(2) RELATION TO COST OF ATTENDANCE.—Notwithstanding paragraph (1), the amount of a scholarship awarded under this section shall be reduced by the amount that the scholarship exceeds the student's cost of attendance, as defined in section 472 of the Higher Education Act of 1965. A scholarship awarded under this section shall not be reduced on the basis of the student's receipt of other forms of Federal student financial assistance, but shall be taken into account in determining the eligibility of the student for those other forms of Federal student financial assistance.

(m) SERVICE REQUIREMENT.—

(1) TEACHING OBLIGATION.—Each recipient of an award under this section shall, as a condition of the receipt of such award, agree to complete, within 6 years after graduation from the baccalaureate degree program for which the award was made or within 6 years after completion of the additional period of scholarship support, if applicable, at least 2 years of service as an elementary or secondary mathematics or science teacher for each year of scholarship support under this section, except that such requirement shall not exceed a total of 4 years. Service required under this paragraph shall be performed at a school receiving assistance under chapter 1 of title I of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 2701 et seq.).

(2) REPAYMENT ALTERNATIVE.—As part of the agreement required under paragraph (1), each recipient shall agree, in the event of failure to complete the service obligation described in paragraph (1), to repay an amount equal to—

(A) the total amount of awards received by such individual under this section; plus

(B) the interest on such amounts which would be payable if at the time the amounts were received they were loans bearing interest at the maximum legal prevailing rate, as determined by the Treasurer of the United States,

except that such payment shall be reduced, for each year of service that the individual has successfully completed, by a fraction equal to 1 divided by the number of years of service the student is obligated to perform. Such repayment shall be made within 1 year after the recipient has ceased to perform the service obligation described in paragraph (1).

(3) EXCEPTIONS.—The Secretary may provide for the partial or total waiver or suspension of any service obligation or payment by an individual under this section in the same manner as is permitted under section 558 of the Higher Education Act of 1965 with respect to scholarships under subpart 1 of part D of title V of the Higher Education Act of 1965, except that pregnancy, child-rearing, or comparable family responsibilities shall also be grounds for deferral.

(n) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the National Science Foundation, for transfer to the Department of Education, $2,500,000 for fiscal year 1991,

$5,000,000 for fiscal year 1992, and $7,500,000 for fiscal year 1993, to carry out the provisions of this part.

PART C—NATIONAL ACADEMY OF SCIENCE, SPACE, AND TECHNOLOGY

SEC. 621. NATIONAL ACADEMY OF SCIENCE, SPACE, AND TECHNOLOGY. 20 USC 5411.

(a) ESTABLISHMENT OF ACADEMY.—The Secretary shall establish a National Academy of Science, Space, and Technology for the instruction and preparation of selected individuals for service in a science, mathematics, or engineering related capacity in the employ of the United States or a United States corporation.

(b) ADVISORY BOARD.—

(1) MEMBERSHIP.—The Secretary, after consultation with the Director, shall appoint an Advisory Board for the Academy consisting of a broadly representative group of scientists, engineers, educators, and businessmen representing high-technology industries.

(2) FUNCTIONS.—The Advisory Board shall—

(A) develop criteria to be used in the selection of recipients of scholarships under this section;

(B) select scholarship recipients from among nominations received under subsection (e); and

(C) identify fields of science, mathematics, and engineering which will be given priority in awarding scholarships under this section.

In making determinations under subparagraph (C), the Advisory Board shall take into consideration requirements of Government and industry for technical personnel in fields of science, mathematics, and engineering which are relevant to emerging industrial technologies of significant economic importance and in which shortages in the work force of the United States are projected.

(c) SCHOLARSHIPS AUTHORIZED.—(1) The Academy shall establish a scholarship program for students to pursue the baccalaureate degree in fields of science, mathematics, or engineering who are willing to commit themselves to service described in subsection (n).

(2) A student who satisfies the requirements of subsection (h)(1) may receive a scholarship for a period of 1 academic year of undergraduate study at a Member Institute.

(3) A student who satisfies the requirements of subsection (h)(2) may receive additional scholarships, each awarded for a period of 1 academic year, in order to complete his or her undergraduate course of study to a maximum of 3 awards.

(4) The individuals awarded scholarships under this section shall be referred to as the "Science, Space, and Technology Corps".

(5) An individual awarded a scholarship under this section may attend any institution of higher education that offers the baccalaureate degree in science, mathematics, or engineering. Such institutions shall be designated as Member Institutes of the Academy.

(d) NOMINATIONS FOR SCHOLARSHIP AWARDS.—Members and Delegates of the House of Representatives may each nominate 6 or more individuals, at least half of whom are female, for scholarships.

(e) SELECTION FOR INITIAL AWARDS.—(1) The Board shall develop criteria for selection of nominees under this section. Such criteria

shall provide for the selection of such nominees on the basis of academic merit and motivation to pursue a career in science, mathematics, or engineering. In addition, consideration may be given to the financial need of the individual, and to promoting participation by minorities and individuals with disabilities.

(2) From among nominees received pursuant to subsection (d), the Board shall select for award of a scholarship one individual from each Congressional District.

(f) CONTINUATION AWARDS.—The Secretary shall award additional scholarships to recipients of initial awards under this section who the Secretary determines meet the requirements of subsection (h)(2).

(g) DISBURSAL OF SCHOLARSHIP PROCEEDS.—Scholarship proceeds shall be disbursed on behalf of students who receive scholarships under this section to the institutions of higher education at which the students are enrolled. No scholarship proceeds shall be disbursed on behalf of a student unless the student is enrolled at an institution of higher education.

(h) ELIGIBILITY.—

(1) INITIAL ELIGIBILITY.—Only individuals who are—

(A) citizens or nationals of the United States, or who are aliens lawfully admitted to the United States for permanent residence;

(B) majoring in the physical, life, or computer sciences, mathematics, or engineering; and

(C) enrolled in an institution of higher education as a full-time undergraduate student (as determined by the institution of higher education),

shall be eligible for awards under this section.

(2) REQUIREMENTS FOR CONTINUATION AWARDS.—A student who has received a scholarship under this section may receive a continuation award under subsection (f) for a subsequent academic year of undergraduate education if the student—

(A) maintains a high level of academic achievement, as determined in accordance with the regulations of the Secretary;

(B) continues to major in one of the physical, life, or computer sciences, mathematics, or engineering; and

(C) continues to be enrolled at an institution of higher education as a full-time undergraduate student (as determined by the institution).

(i) WAIVER OF FULL-TIME ATTENDANCE REQUIREMENT.—The Secretary may waive the full-time attendance requirements in this section in unusual circumstances.

(j) FAILURE TO MEET ELIGIBILITY REQUIREMENTS.—In the event that the student fails to meet the requirements of this section, the student's eligibility to receive further scholarships (or scholarship proceeds) under this section shall be suspended in accordance with the regulations of the Secretary.

(k) REINSTATEMENT OF ELIGIBILITY.—The Secretary shall determine circumstances under which eligibility of a scholarship recipient under this section may be reinstated if the recipient seeks to reenter school after an interruption of schooling for personal reasons, including, but not limited to, pregnancy, child-rearing, and other family responsibilities.

(l) NOTIFICATION OF SCHOOLS.—The Secretary shall notify all institutions of higher education in the United States annually of the availability of scholarships under this section.

(m) SCHOLARSHIP AMOUNT.—

(1) AMOUNT OF AWARD.—Except as provided in paragraphs (2) and (3), the amount of a scholarship awarded under this section for any academic year shall be $5,000.

(2) RELATION TO COST OF ATTENDANCE.—Notwithstanding paragraph (1), the amount of a scholarship awarded under this section shall be reduced by the amount that the scholarship exceeds the student's cost of attendance, as defined in section 472 of the Higher Education Act of 1965. A scholarship awarded under this section shall not be reduced on the basis of the student's receipt of other forms of Federal student financial assistance, but shall be taken into account in determining the eligibility of the student for those other forms of Federal student financial assistance.

(3) ADJUSTMENTS FOR INSUFFICIENT APPROPRIATIONS.—In the event that funds available in a fiscal year are insufficient to fully fund all awards under this section, the amount paid to each student shall be reduced proportionately.

(n) SERVICE REQUIREMENT.— Government contracts.

(1) SCIENCE, SPACE, AND TECHNOLOGY SCHOLARSHIPS.—Each recipient of an award under this section shall, as a condition of the receipt of such award, agree to complete four years of—

(A) service in a physical, life, or computer science, mathematics, or engineering related capacity in the employ of the United States or any corporation or other entity, organized under the laws of the United States or of a State of the United States, at least 50 percent of which is owned by United States nationals, and which is engaged in scientific or engineering research or endeavor;

(B) postgraduate education in physical, life, or computer science, mathematics, or engineering at an institution of higher education; or

(C) a combination of service and education described under subparagraphs (A) and (B).

(2) REPAYMENT OBLIGATION.—As part of the agreement required under paragraph (1), each recipient shall agree, in the event of failure to complete the service obligation described in paragraph (1), to repay an amount equal to—

(A) the total amount of awards received by such individual under this section; plus

(B) the interest on such amounts which would be payable if at the time the amounts were received the amounts were loans bearing interest at the maximum legal prevailing rate, as determined by the Treasurer of the United States.

Such repayment shall be made within 1 year after the recipient has ceased to perform the service obligation described in paragraph (1).

(3) EXCEPTIONS.—The Secretary may provide for the partial or total waiver or suspension of any service obligation or payment by an individual under this section in the same manner as is permitted under section 558 of the Higher Education Act of 1965 with respect to scholarships under subpart 1 of part D of title V of the Higher Education Act of 1965, except that pregnancy, child-rearing, or comparable family responsibilities shall also be grounds for deferral.

(o) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to carry out this section $2,200,000 for fiscal year 1991.

PART D—ADDITIONAL PROVISIONS

20 USC 5421.

SEC. 631. EFFECT OF CERTAIN CONTROLLED SUBSTANCE AND FELONY CONVICTIONS.

(a) GENERAL RULE.—Except as provided in subsection (b), or by a court under the authority of section 5301 of the Anti-Drug Abuse Act of 1988 (102 Stat. 4310), if any person is convicted under Federal or State law of the illegal use, possession, or distribution of a controlled substance (as such term is defined in the Controlled Substances Act), or of any crime which is a felony under Federal law or for an act which, if committed in a Federal jurisdiction, would be a felony under Federal law, and such crime was committed during a period in which such person received an award under this title, such person shall not be eligible to receive any further such awards, and shall be liable to the United States for the repayment, within 1 year after such conviction, of all amounts received pursuant to such awards, plus the interest on such amounts which would be payable if at the time the amounts were received they were loans bearing interest at the maximum legal prevailing rate, as of the time of such conviction, as determined by the Treasurer of the United States.

(b) EXEMPTION.—A person subject to the provisions of subsection (a) may be exempted from those provisions in whole or in part if—

(1) that person, within 90 days of a conviction described in subsection (a), petitions the Secretary of Education for a good cause exemption from subsection (a); and

(2) the Secretary of Education approves the petition.

20 USC 5422.

SEC. 632. REPORT.

The National Science Foundation shall prepare and submit to the Congress no later than 1 year after the date of enactment of this Act a report examining current efforts to improve the quality of elementary and secondary mathematics and science education and career potential for the underprivileged through joint efforts of business, school districts, and institutions of higher education, and recommending ways the Federal Government may encourage such efforts. The report shall include, to the extent possible, a comprehensive list of existing efforts, an assessment of what factors have made some such efforts more successful than others, and a review of the extent to which such efforts have drawn on Federal programs.

TITLE VII—GENERAL PROVISIONS AND AUTHORIZATION OF APPROPRIATIONS

PART A—AUTHORIZATION OF APPROPRIATIONS

20 USC 5431.

SEC. 701. AUTHORIZATION OF APPROPRIATIONS.

From the amounts authorized to be appropriated to the National Science Foundation pursuant to the National Science Foundation Authorization Act of 1988, there are authorized to be appropriated—

(1) in addition to any amount obligated in fiscal year 1990 for programs on applications of advanced technology within the Education and Human Resources Directorate—

(A) $10,000,000 for fiscal year 1991 to carry out the provisions of section 221, of which $5,000,000 shall be available to carry out the provisions of subsection (a) of such section and $5,000,000 shall be available to carry out the provisions of subsection (b) of such section;

(B) $11,000,000 for fiscal year 1992 to carry out the provisions of section 221, of which $5,500,000 shall be available to carry out the provisions of subsection (a) of such section and $5,500,000 shall be available to carry out the provisions of subsection (b) of such section; and

(C) $12,500,000 for fiscal year 1993 to carry out the provisions of section 221, of which $6,250,000 shall be available to carry out the provisions of subsection (a) of such section and $6,250,000 shall be available to carry out the provisions of subsection (b) of such section;

(2) in addition to any amounts obligated in fiscal year 1990 for informal science education programs, $15,000,000 for fiscal year 1991, $17,000,000 for fiscal year 1992, and $19,400,000 for fiscal year 1993 to carry out the provisions of section 231;

(3) in addition to any amounts obligated in fiscal year 1990 for statewide education programs, $17,000,000 for fiscal year 1991, $19,400,000 for fiscal year 1992, and $22,100,000 for fiscal year 1993 to carry out the provisions of section 241;

(4) in addition to any amounts obligated in fiscal year 1990 for undergraduate education programs, $16,000,000 for fiscal year 1991, $18,200,000 for fiscal year 1992, and $20,700,000 for fiscal year 1993 to carry out the provisions of section 311;

(5) $37,900,000 for fiscal year 1991, $60,600,000 for fiscal year 1992, and $67,800,000 for fiscal year 1993 to support of graduate fellowships, including expansion of the number of graduate fellowships pursuant to the provisions of section 302;

(6) $10,000,000 for fiscal year 1991, $20,000,000 for fiscal year 1992, and $30,000,000 for fiscal year 1993 to carry out the provisions of section 303; and

(7) in addition to any amounts obligated in fiscal year 1990 for programs to increase participation by women and minorities in careers in science, mathematics and engineering, $17,000,000 for fiscal year 1991, $19,400,000 for fiscal year 1992, and $22,000,000 for fiscal year 1993 to carry out the provisions of title IV.

PART B—DEFINITIONS

SEC. 711. DEFINITIONS. 20 USC 5441.

As used in this Act—

(1) the term "consortium", refers to a combination of school districts, colleges, universities, other formal or informal educational entities, State and local governments, professional organizations, community groups, businesses and industries, or any combination thereof;

(2) the term "Director", unless otherwise specified, shall refer to the Director of the National Science Foundation;

(3) the term "elementary school" has the same meaning given that term in section 1471(8) of the Elementary and Secondary Education Act of 1965;

(4) the term "Foundation" refers to the National Science Foundation;

(5) the term "institution of higher education" has the same meaning given that term in section 1201(a) of the Higher Education Act of 1965;

(6) the term "local educational agency" has the same meaning given that term in section 1471(12) of the Elementary and Secondary Education Act of 1965;

(7) the term "minorities" refers to members of those racial and ethnic groups underrepresented in mathematics, science and engineering, including American Indians, Black Americans, Hispanic Americans, Native Alaskans, or Native Pacific Islanders;

(8) the terms "scholarship" and "fellowship" refers to a financial award made to a student which enables a student to pursue a desired course of study at an institution of higher education;

(9) the term "secondary school" has the same meaning given that term in section 1471(21) of the Elementary and Secondary Education Act of 1965;

(10) the term "Secretary", unless otherwise specified, refers to the Secretary of the Department of Education;

(11) the term "State educational agency" has the same meaning given that term in section 1471(23) of the Elementary and Secondary Education Act of 1965; and

(12) the term "traineeship" means a form of financial support provided to an institution of higher education to—

(A) be used to provide stipends to graduate students selected by such institution; and

(B) help defray educational costs of educating such graduate students.

PART C—MISCELLANEOUS PROVISIONS

SEC. 721. STUDENT ASSISTANCE GENERAL PROVISIONS.

The Secretary shall extend until January 1, 1991 the public comment period on the proposed regulations modifying part 668 of title 34, Code of Federal Regulations, concerning clock and credit hour conversion.

SEC. 722. PUBLIC LAW 81-874.

(a) FEDERAL CONTRIBUTIONS.—Section 2 of Public Law 81-874 (20 U.S.C. 237) is amended—

(1) by redesignating the second subsection (d), as added by section 7(a) of Public Law 101-305, as subsection (e); and

(2) by adding a new subsection at the end thereof to read as follows:

"(f) Beginning with fiscal year 1991, any school district which (1) as demonstrated by written evidence from the United States Forest Service satisfactory to the Secretary, contains between 50,000 and 55,000 acres of land that has been acquired by the United States Forest Service between 1915 and 1990, and (2) serves a county chartered by State law in 1875, shall be deemed to have met the requirements of subsection 2(a)(1)(C).".

(b) PAYMENTS.—Section 5(e)(1)(D) of Public Law 81-874 (20 U.S.C. 240) (hereafter in this section referred to as the "Act") shall not apply to any local educational agency that was an agency described in section 5(c)(2)(A)(ii) of the Act in fiscal year 1990 but is an agency described in section 5(c)(2)(A)(iii) in fiscal year 1991, 1992, or 1993 as a result of families moving off base due to a landfill or health concern or an environmental hazard, or due to risk assessment, investigation, testing or remediation for such concern or hazard, and any such local educational agency shall be deemed to belong to the category described in section 5(c)(2)(A)(ii) for each of the fiscal years 1991, 1992, and 1993. 20 USC 240 note.

(c) SUNSET PROVISION.—The provisions of subsection (b) shall apply only during the period beginning on the date of enactment of this Act and ending on September 30, 1993. 20 USC 240 note.

(d) DISCRETIONARY ALLOCATIONS.—

(1) IN GENERAL.—Section 5(e)(1)(B) of Public Law 81-874 (20 U.S.C. 240(e)(1)(B)) is amended to read as follows:

"(B)(i) For any fiscal year beginning after September 30, 1990, the Secretary shall first allocate to any local educational agency that is, and in fiscal year 1987 would have been, described in subsection (c)(3)(A)(i) and that received a payment under section 3(b) for fiscal year 1987, an amount that is not less than the product of—

"(I) 100 percent of the per pupil amount paid to such agency under section 3(b) for fiscal year 1987; and

"(II) the number of children described in section 3(b) in average daily attendance in the fiscal year for which the determination under section 3(b) is made, not to exceed the number of such eligible children claimed by such agency in fiscal year 1987.

"(ii) If the amount appropriated for section 3(b) in any fiscal year exceeds the amount appropriated for such section for fiscal year 1990, the Secretary shall use such excess funds—

"(I) first, to allocate to any such agency, for such children that exceed the number of such eligible children claimed by the agency in fiscal year 1987, the amount described in subsection (c)(3)(B)(i)(I); and

"(II) second, to allocate remaining funds in accordance with subsection (c)(3)(B).".

(2) SPECIAL RULE.—Section 5(e) of Public Law 81-874 (20 U.S.C. 240(e)) is further amended by striking out paragraph (3).

SEC. 723. TECHNICAL AMENDMENT.

Section 312(5) of the Adult Education Act (20 U.S.C. 1201a(5)) is amended by inserting ", or to perform a service function for," after "direction of" the first place it appears.

PART D—EFFECTIVE DATE

SEC. 731. EFFECTIVE DATE.

The provisions of this Act shall take effect on October 1, 1990, or the date of enactment of this Act, whichever is later.

Approved November 16, 1990.

LEGISLATIVE HISTORY—H.R. 996:

HOUSE REPORTS: No. 101-220 (Comm. on Science, Space, and Technology) and No. 101-937 (Comm. of Conference).

CONGRESSIONAL RECORD:

Vol. 135 (1989): Sept. 12, considered and passed House.

Vol. 136 (1990): Aug. 3, considered and passed Senate, amended.

Oct. 25, House agreed to conference report.

Oct. 26, Senate agreed to conference report.

WEEKLY COMPILATION OF PRESIDENTIAL DOCUMENTS, Vol. 26 (1990):

Nov. 16, Presidential statement.

Public Law 101-592
101st Congress

An Act

To require that certain fasteners sold in commerce conform to the specifications to which they are represented to be manufactured, to provide for accreditation of laboratories engaged in fastener testing, to require inspection, testing, and certification, in accordance with standardized methods, of fasteners used in critical applications to increase fastener quality and reduce the danger of fastener failure, and for other purposes.

Nov. 16, 1990
[H.R. 3000]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Fastener Quality Act.
Consumer protection.
15 USC 5401 note.

SECTION 1. SHORT TITLE.

This Act may be cited as the "Fastener Quality Act".

15 USC 5401.

SEC. 2. FINDINGS AND PURPOSE.

(a) FINDINGS.—The Congress finds that—

(1) the American economy uses billions of fasteners each year;

(2) millions of mismarked, substandard, counterfeit, and other nonconforming fasteners have been sold in commerce to end-users in the United States, and their use has dramatically increased the risk of equipment and infrastructure failures;

(3) both the military and civilian sectors of the economy have encountered unnecessary, unwarranted, and dangerous equipment and construction failures, as well as extraordinary expenses, as a result of the use of nonconforming fasteners;

(4) the sale in commerce of nonconforming fasteners and the use of nonconforming fasteners in numerous critical applications have reduced the combat readiness of the Nation's military forces, endangered the safety of other Federal projects and activities, and cost both the public and private sectors large sums in connection with the retesting and purging of fastener inventories;

(5) the purchase and use of nonconforming fasteners stem from material misrepresentations about such fasteners made by certain manufacturers, importers, and distributors engaged in commerce;

(6) current fastener standards of measurement evaluate bolts and other fasteners according to multiple criteria, including strength, hardness, and composition, and provide grade identification markings on fasteners to make the characteristics of individual fasteners clear to purchasers and users;

(7) current tests required by consensus standards, designed to ensure that fasteners are of standard measure, are adequate and appropriate for use as standards in a program of high-strength fastener testing;

(8) the lack of traceability by lot number of fasteners sold in commerce is a serious impediment to effective quality control efforts; and

(9) the health and safety of Americans is threatened by the widespread sale in commerce of mismarked, substandard, and

counterfeit fasteners, a practice which also harms American manufacturers, importers, and distributors of safe and conforming fasteners, and workers in the American fastener industry.

(b) PURPOSE.—In order to protect public safety, to deter the introduction of nonconforming fasteners into commerce, to improve the traceability of fasteners used in critical applications, and generally to provide commercial and governmental customers with greater assurance that fasteners meet stated specifications, it is the purpose of this Act to c. eate procedures for the testing, certification, and distribution of certain fasteners used in commerce within the United States.

15 USC 5402.

SEC. 3. DEFINITIONS.

As used in this Act, the term—

(1) "alter" means to alter—

(A) by through-hardening,

(B) by electroplating of fasteners having a minimum tensile strength of 150,000 pounds per square inch, or

(C) by machining;

(2) "consensus standards organization" means the American Society for Testing and Materials, American National Standards Institute, American Society of Mechanical Engineers, Society of Automotive Engineers, or any other standard-setting organization determined by the Secretary to have comparable knowledge, expertise, and concern for health and safety in the field for which such organization purports to set standards;

(3) "container" means any package of fasteners traded in commerce;

(4) "Director" means the Director of the National Institute of Standards and Technology;

(5) "fastener" means—

(A) a—

(i) screw, nut, bolt, or stud having internal or external threads, or

(ii) a load-indicating washer,

with a nominal diameter of 5 millimeters or greater, in the case of such items described in metric terms, or ¼ inch or greater, in the case of such items described in terms of the English system of measurement, which contains any quantity of metal and is held out as meeting a standard or specification which requires through-hardening,

(B) a screw, nut, bolt, or stud having internal or external threads which bears a grade identification marking required by a standard or specification,

(C) a washer to the extent that it is subject to a standard or specification applicable to a screw, nut, bolt, or stud described in subparagraph (B), or

(D) any item within a category added by the Secretary in accordance with section 4(b),

except that such term does not include any screw, nut, bolt, or stud that is produced and marked as ASTM A 307 Grade A;

(6) "grade identification marking" means any symbol appearing on a fastener purporting to indicate that the fastener's base material, strength properties, or performance capabilities conform to a specific standard of a consensus standards organization or other person;

(7) "importer" means a person located within the United States who contracts for the initial purchase of fasteners manufactured outside the United States for resale or such person's use within the United States;

(8) "Institute" means the National Institute of Standard and Technology;

(9) "lot" means a quantity of fasteners of one part number fabricated by the same production process from the same coil or heat number of metal as provided by the metal manufacturer and submitted for inspection and testing at one time;

(10) "manufacturer" means a person who fabricates fasteners, or who alters any item so that it becomes a fastener;

(11) "original equipment manufacturer" means a person who uses fasteners in the manufacture or assembly of its products and sells fasteners to authorized dealers as replacement or service parts for its products;

(12) "private label distributor" means a person who contracts with a manufacturer for the fabrication of fasteners bearing the distributor's distinguishing insignia;

(13) "Secretary" means the Secretary of Commerce;

(14) "standards and specifications" means the provisions of a document published by a consensus standards organization, a government agency, or a major end-user of fasteners which defines or describes dimensional characteristics, limits of size, acceptable materials, processing, functional behavior, plating, baking, inspecting, testing, packaging, and required markings of any fastener; and

(15) "through-harden" means heating above the transformation temperature followed by quenching and tempering.

SEC. 4. SPECIAL RULES FOR FASTENERS. 15 USC 5403.

(a) WAIVER REQUIREMENT.—If the Secretary determines that any category of fastener is not used in critical applications, the Secretary shall waive the requirements of this Act with respect to such category.

(b) ADDITIONAL ITEMS.—If the Secretary determines that—

(1) a category of screw, nut, bolt, or stud which is not described in section 3(5)(A)(i) or (B),

(2) a category of item which is associated with a fastener described in section 3(5)(A), (B), or (C), or

(3) a category of item which serves a function comparable to that served by a fastener so described

is used in critical applications, the Secretary may include such category under section 3(5)(D) and therefore within the definition of fasteners under this Act.

(c) NOTICE AND OPPORTUNITY FOR COMMENTS.—The Secretary shall provide advance notice and the opportunity for public comments prior to making any determination under subsections (a) and (b) and shall act through the Director in making any such determination.

SEC. 5. TESTING AND CERTIFICATION OF FASTENERS. 15 USC 5404.

(a) REQUIREMENT.—(1) No fastener shall be offered for sale or sold in commerce unless it is part of a lot which—

(A) conforms to the standards and specifications to which the manufacturer represents it has been manufactured; and

(B) has been inspected, tested, and certified as provided in subsections (b) and (c) of this section.

(2)(A) Paragraph (1)(B) of this subsection shall not apply to fasteners which are part of a lot of 50 fasteners or less if, within 10 working days after the delivery of such fasteners, or as soon as practicable thereafter—

(i) inspection, testing, and certification as provided in subsections (b) and (c) is carried out; and

(ii) written notice detailing the results of such inspection, testing, and certification is sent (I) to all purchasers of such fasteners, except retail sellers and retail consumers, and (II) to any retail seller or retail consumer who, prior to delivery, requests such written notice.

(B) If a fastener is sold under this paragraph, each purchaser of such fastener, except for retail sellers and retail consumers unless such retail sellers and retail consumers request such notice in advance, shall be provided, contemporaneously with each sale and delivery, written notice stating that such fastener has not yet been inspected, tested, and certified as required by this Act.

(b) INSPECTION AND TESTING.—(1) The manufacturer of a lot of fasteners shall cause to be inspected and tested a representative sample, as provided in paragraph (2) of this subsection, of the fasteners in such lot to determine whether the lot conforms to the standards and specifications to which the manufacturer represents it has been manufactured. Such inspection and testing shall be performed by a laboratory accredited in accordance with the procedures and conditions specified by the Secretary under section 6. The standards and specifications to which the manufacturer represents such lot has been manufactured shall be disclosed by the manufacturer to the laboratory at the time the lot is submitted for inspection and testing under this paragraph. The manufacturer of a lot may perform the inspection and testing required by this paragraph in a laboratory which it owns or with which it is otherwise affiliated, if such laboratory is accredited in accordance with the procedures and conditions specified by the Secretary under section 6; unless the Secretary finds that, as to a specific type of fastener and as to a specific type of inspection or testing, a ban on manufacturer ownership or affiliation with the accredited laboratory would increase the protection of health and safety of the public or industrial workers.

(2) The size, selection, and integrity of the sample to be inspected and tested under paragraph (1) shall be governed—

(A) by the standards and specifications to which the manufacturer represents the fasteners in the sample have been manufactured; or

(B) if such standards and specifications do not provide for the size, selection, or integrity of the sample, by sampling procedures prescribed by the Secretary, who shall to the extent practicable use consensus testing standards and related materials.

Nothing in this paragraph shall prohibit a purchaser from requiring the inspection and testing of a greater number of fasteners from a lot than is specified in the applicable standards and specifications or in the applicable sampling procedures prescribed by the Secretary.

(c) LABORATORY REPORT OF TESTING.—If a laboratory performing the inspection and testing under subsection (b)(1) determines, as to the characteristics selected under the sampling procedures prescribed by the Secretary and based on the sample examined, that a lot conforms to the standards and specifications to which the manufacturer represents it has been manufactured, the laboratory shall

provide to the manufacturer a written inspection and testing report with respect to such lot. The report, which shall be in a form prescribed by the Secretary by regulation, shall—

(1) state the manufacturer's name, the part description, and the lot number and note the grade identification mark and insignia found on the fastener;

(2) reference the standards and specifications disclosed by the manufacturer with respect to such lot under subsection (b)(1) or, where applicable, certified by the manufacturer under section 7(c)(1);

(3) list the markings and characteristics selected under the Secretary's procedures for testing, such as the chemical, dimensional, physical, mechanical, and any other significant characteristics required by the standards and specifications described in paragraph (2) and specify the results of the inspection and testing under subsection (b)(1);

(4) state whether, based on the samples provided as representative of the lot, such lot has been found after such inspection and testing to conform to such standards and specifications; and

(5) bear the original signature of a laboratory employee or officer determined by the Secretary to be responsible for the accuracy of the report and of the inspection and testing to which it relates.

SEC. 6. LABORATORY ACCREDITATION. 15 USC 5405.

(a) ESTABLISHMENT OF ACCREDITATION PROGRAM.—(1) Within 180 days after the date of enactment of this Act, the Secretary, acting through the Director, shall issue regulations which shall include— Regulations.

(A) procedures and conditions, including sampling procedures referred to in section 5, for the accreditation by the Institute of laboratories engaged in the inspection and testing of fasteners under section 5;

(B) procedures and conditions (which shall be consistent with the procedures and conditions established under subparagraph (A)), using to the extent practicable the requirements of national or international consensus documents intended to govern the operation of accreditation bodies, under which private entities may apply for approval by the Secretary to engage directly in the accreditation of laboratories in accordance with the requirements of this Act; and

(C) conditions (which shall be consistent with the procedures and conditions established under subparagraph (A)), under which the accreditation of foreign laboratories by their governments or organizations recognized by the Director shall be deemed to satisfy the laboratory accreditation requirements of this section.

(2) Upon establishing a laboratory accreditation program under paragraph (1), the Secretary shall publish a notice in the Federal Register stating that the Secretary is prepared to accept applications for accreditation of such laboratories. Federal Register, publication.

(3) No accreditation provided under the terms of this subsection shall be effective for a period of greater than 3 years.

(b) LABORATORY ACCREDITATION PROCEDURES.—Existing Institute accreditation procedures stated in part 7 of title 15, Code of Federal Regulations, as in effect on the date of enactment of this Act, supplemented as the Secretary considers necessary, shall be used to

accredit laboratories under the accreditation program established under subsection (a).

(c) ENSURING COMPLIANCE.—(1) The Secretary shall ensure that—

(A) private entities accrediting laboratories under procedures and conditions established under subsection (a)(1)(B) comply with such procedures and conditions, and

(B) laboratories accredited by such private entities, or by foreign governments pursuant to subsection (a)(1)(C), comply with the requirements for such accreditation.

Records.

(2) The Secretary may require any such private entity or laboratory to provide all records and materials that may be necessary to allow the Secretary to carry out this subsection.

(d) OPERATION OF LABORATORY ACCREDITATION PROGRAM.—(1) The Director may hire such contractors as are necessary to carry out the accreditation program established under subsection (a).

(2) Costs to the Institute and to the Secretary for the establishment and operation of the accreditation program under this section shall be fully reimbursable to the Institute or to the Secretary, as appropriate, through fees or other charges for accreditation services under such program.

(e) RECOMMENDATIONS TO CONSENSUS STANDARDS ORGANIZATIONS.—The Director shall periodically transmit to appropriate consensus standards organizations any information or recommendations that may be useful in the establishment or application by such organizations of standards and specifications for fasteners.

15 USC 5406.

SEC. 7. SALE OF FASTENERS SUBSEQUENT TO MANUFACTURE.

(a) DOMESTICALLY PRODUCED FASTENERS.—It shall be unlawful for a manufacturer to sell any shipment of fasteners (except fasteners for which the Secretary has waived the requirements of this Act pursuant to section 4) which are manufactured in the United States unless the fasteners are accompanied, at the time of delivery, by a written certificate by the manufacturer certifying that—

(1) the fasteners have been manufactured according to the requirements of the applicable standards and specifications and have been inspected and tested by a laboratory accredited in accordance with the procedures and conditions specified by the Secretary under section 6; and

Records.

(2) an original laboratory testing report described in section 5(c) is on file with the manufacturer, or under such custody as may be prescribed by the Secretary, and available for inspection.

(b) FASTENERS OF FOREIGN ORIGIN.—(1) Except as provided in paragraph (2) of this subsection, it shall be unlawful—

(A) for any person to sell to any importer, and

(B) for any importer to purchase,

any shipment of fasteners which are manufactured outside the United States unless delivery of such shipment to such importer is accompanied by a manufacturer's certificate as described in subsection (a), an original laboratory testing report described in section 5(c), with respect to each lot from which such fasteners were taken, and any other relevant lot identification information.

(2) The requirement under paragraph (1) of this subsection that the delivery of such a shipment to such importer be accompanied by an original laboratory testing report shall not apply in the case of fasteners imported into the United States—

(A) as products manufactured within a nation which is party to a congressionally-approved free trade agreement with the United States that is in effect, so long as the Secretary certifies that satisfactory arrangements have been reached by which purchasers within the United States can readily gain access to an original laboratory testing report for such fasteners; or

(B) as Canadian-origin products under the United States-Canada Automobile Pact for use as original equipment in the manufacture of motor vehicles.

Canada.
Motor vehicles.

(c) OPTION FOR IMPORTERS AND PRIVATE LABEL DISTRIBUTORS.—(1) Notwithstanding section 5(a) and subsections (a) and (b) of this section, delivery of a lot, or portion of a lot, of fasteners may be made to an importer or private label distributor without the required original copy of the laboratory testing report if—

(A) the manufacturer provides to the importer or private label distributor a manufacturer's certificate certifying that the fasteners have been manufactured according to the requirements of the applicable standards and specifications; and

(B) the importer or private label distributor assumes responsibility in writing for the inspection and testing of such lot or portion by a laboratory accredited in accordance with the procedures and conditions specified by the Secretary under section 6.

(2) If the importer or private distributor assumes the responsibility in writing for the inspection and testing of such lot or portion, the provisions of section 5(a) and subsections (a) and (b) of this section shall apply to the importer or private label distributor in the same manner and extent as to a manufacturer; except that the importer or private label distributor shall provide to the testing laboratory the manufacturer's certificate described under paragraph (1) of this subsection.

(d) ALTERATIONS SUBSEQUENT TO MANUFACTURE.—(1) Any person who significantly alters a fastener so that such fastener no longer conforms to the description in the relevant certificate issued under section 5(c), and who thereafter offers for sale or sells such altered fastener, shall be treated as a manufacturer for purposes of this Act and shall cause such altered fastener to be inspected and tested under section 5 or this section as though it were newly manufactured, unless delivery of such fastener to the purchaser is accompanied by a written statement noting the original lot number, disclosing the subsequent alteration, and warning that such alteration may affect the dimensional or physical characteristics of the fastener.

(2) Any person who knowingly sells an altered fastener and who did not alter such fastener shall provide to the purchaser a copy of the statement required by paragraph (1).

(e) COMMINGLING.—(1) Subject to paragraph (2), it shall be unlawful for any manufacturer or any person who purchases any quantity of fasteners for resale at wholesale to commingle like fasteners from different lots in the same container; except that such manufacturer or such person may commingle like fasteners of the same type, grade, and dimension from not more than two tested and certified lots in the same container during repackaging and plating operations: *Provided*, That any container which contains like fasteners from two lots shall be conspicuously marked with the lot identification numbers of both lots.

(2) Paragraph (1) does not apply to sales by original equipment manufacturers to their authorized dealers for use in assembling or

servicing products produced by the original equipment manufacturers.

(f) SUBSEQUENT PURCHASER.—(1) It shall be unlawful for any person to sell fasteners, of any quantity, to any person who purchases such fasteners—

(A) for sale at wholesale, or

(B) for assembling components of a product or structure for sale,

unless the container of fasteners sold is conspicously marked with the number of the lot from which such fasteners were taken, except that this requirement shall not apply to sales by original equipment manufacturers to their authorized dealers for use in assembling or servicing products produced by the original equipment manufacturer.

(2) If a person who purchases fasteners for purposes other than those described in paragraph (1) (A) and (B) so requests either prior to the sale or at the time of sale, the seller shall conspicuously mark the container of fasteners with the lot number from which such fasteners were taken.

(g) REGULATIONS.—The Secretary may issue such regulations as may be necessary to ensure compliance with the provisions of this section.

15 USC 5407.

SEC. 8. MANUFACTURERS' INSIGNIAS.

(a) GENERAL RULE.—No fastener which is required by the standards and specifications to which it was manufactured to bear a raised or depressed insignia identifying its manufacturer or private label distributor shall be offered for sale or sold in commerce unless the manufacturer or private label distributor of such fastener has complied with the requirements prescribed by the Secretary in connection with the program established under subsection (b) of this section.

Regulations.

(b) RECORDATION.—The Secretary shall establish, by regulation, a program to provide for the recordation of the insignias of manufacturers and private label distributors described in subsection (a), to ensure the traceability of a fastener to its manufacturer or private label distributor.

15 USC 5408.

SEC. 9. REMEDIES AND PENALTIES.

(a) CIVIL REMEDIES.—(1) The Attorney General may bring an action in an appropriate United States district court for appropriate declaratory and injunctive relief against any person who violates this Act or any regulation under this Act.

(2) An action under paragraph (1) may not be brought more than 10 years after the date on which the cause of action accrues.

(b) CIVIL PENALTIES.—(1) Any person who is determined by the Secretary, after notice and an opportunity for a hearing, to have violated this Act or any regulation under this Act shall be liable to the United States for a civil penalty of not more than $25,000 for each violation.

(2) The amount of the penalty shall be assessed by the Secretary by written notice. In determining the amount of the penalty, the Secretary shall consider the nature, circumstances, and gravity of the violation and, with respect to the person found to have committed the violation, the degree of culpability, any history of prior violations, the effect on ability to continue to do business, any good

faith attempt to achieve compliance, ability to pay the penalty, and such other matters as justice may require.

(3) Any person against whom a civil penalty is assessed under paragraph (2) of this section may obtain review thereof in the appropriate court of the United States by filing a notice of appeal in such court within 30 days from the date of such order and by simultaneously sending a copy of such notice by certified mail to the Secretary. The findings and order of the Secretary shall be set aside by such court if they are found to be unsupported by substantial evidence, as provided in section 706(2) of title 5, United States Code.

(4) The Secretary may compromise, modify, or remit, with or without conditions, any civil penalty which is subject to imposition or which has been imposed under this section prior to referral to the Attorney General under paragraph (5).

(5) A civil penalty assessed under this subsection may be recovered in an action brought by the Attorney General on behalf of the United States in the appropriate district court of the United States. In such action, the validity and appropriateness of the final order imposing the civil penalty shall not be subject to review.

(6) For the purpose of conducting any hearing under this section, the Secretary may issue subpoenas for the attendance and testimony of witnesses and the production of relevant papers, books, and documents, and may administer oaths. Witnesses summoned shall be paid the same fees and mileage that are paid to witnesses in the courts of the United States. In case of contempt or refusal to obey a subpoena served upon any person pursuant to this paragraph, the district court of the United States for any district in which such person is found, resides, or transacts business, upon application by the United States and after notice to such person, shall have jurisdiction to issue an order requiring such person to appear and give testimony before the Secretary or to appear and produce documents before the Secretary, or both, and any failure to obey such order of the court may be punished by such court as a contempt thereof.

(c) CRIMINAL PENALTIES.—(1) Whoever knowingly certifies, marks, offers for sale, or sells a fastener in violation of this Act or a regulation under this Act shall be fined under title 18, United States Code, or imprisoned not more than 5 years, or both.

(2) Whoever intentionally fails to maintain records relating to a fastener in violation of this Act or a regulation under this Act shall be fined under title 18, United States Code, or imprisoned not more than 5 years, or both.

(3) Whoever negligently fails to maintain records relating to a fastener in violation of this Act or a regulation under this Act shall be fined under title 18, United States Code, or imprisoned not more than 2 years, or both.

SEC. 10. RECORDKEEPING REQUIREMENTS. 15 USC 5409.

(a) LABORATORIES.—Laboratories which perform inspections and testing under section 5(b) shall retain for 10 years all records concerning the inspection and testing, and certification, of fasteners under section 5.

(b) MANUFACTURERS, IMPORTERS, PRIVATE LABEL DISTRIBUTORS, AND PERSONS WHO MAKE SIGNIFICANT ALTERATIONS.—Manufacturers, importers, private label distributors, and persons who make significant alterations shall retain for 10 years all records concerning the inspection and testing, and certification, of fasteners under

section 5, and shall provide copies of any applicable laboratory testing report or manufacturer's certificate upon request to any subsequent purchaser of fasteners taken from the lot to which such testing report or manufacturer's certificate relates.

15 USC 5410.

SEC. 11. RELATIONSHIP TO STATE LAWS.

Nothing in this Act shall be construed to preempt any rights or causes of action that any buyer may have with respect to any seller of fasteners under the law of any State, except to the extent that the provisions of this Act are in conflict with such State law.

15 USC 5411.

SEC. 12. CONSTRUCTION.

Nothing in this Act shall be construed to limit or otherwise affect the authority of any consensus standards organization to establish, modify, or withdraw any standards and specifications under any other law or authority in effect on the date of enactment of this Act.

15 USC 5412.

SEC. 13. REGULATIONS.

The Secretary shall within 180 days after the date of enactment of this Act issue such regulations as may be necessary to implement this Act.

15 USC 5413.

SEC. 14. ADVISORY COMMITTEE.

Within 90 days after the date of enactment of this Act, the Secretary shall appoint an advisory committee consisting of representatives of fastener manufacturers, importers, distributors, end-users, independent laboratories, and standards organizations. The Secretary and Director shall consult with the advisory committee—

(1) prior to promulgating any regulations under this Act; and

(2) in such other matters related to fasteners as the Secretary may determine.

15 USC 5414.

SEC. 15. APPLICABILITY.

The requirements of this Act shall be applicable only to fasteners fabricated 180 days or more after the Secretary issues final regulations required under sections 5, 6, and 8, except that the Secretary

may extend such time period if the Secretary determines that an insufficient number of laboratories have been accredited to perform the volume of inspection and testing required. Upon any such extension, and every 6 months thereafter during such extension, the Secretary shall submit a report to the Congress explaining the reasons for such extension and the steps being taken to ensure the accreditation of a sufficient number of laboratories. Reports.

Approved November 16, 1990.

LEGISLATIVE HISTORY—H.R. 3000:

HOUSE REPORTS: No. 101-211, Pt. 1 (Comm. on Science, Space, and Technology) and Pt. 2 (Comm. on Energy and Commerce).

SENATE REPORTS: No. 101-388 (Comm. on Commerce, Science, and Transportation).

CONGRESSIONAL RECORD:

Vol. 135 (1989): Sept. 19, considered and passed House.

Vol. 136 (1990): Oct. 26, considered and passed Senate, amended. House concurred in Senate amendment.

GLOBAL CHANGE RESEARCH ACT OF 1990

Public Law 101-606
101st Congress

An Act

To require the establishment of a United States Global Change Research Program aimed at understanding and responding to global change, including the cumulative effects of human activities and natural processes on the environment, to promote discussions toward international protocols in global change research, and for other purposes.

Nov. 16, 1990
[S. 169]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Global Change Research Act of 1990.
15 USC 2921 note.

SECTION 1. SHORT TITLE.

This Act may be cited as the "Global Change Research Act of 1990".

15 USC 2921.

SEC. 2. DEFINITIONS.

As used in this Act, the term—

(1) "Committee" means the Committee on Earth and Environmental Sciences established under section 102;

(2) "Council" means the Federal Coordinating Council on Science, Engineering, and Technology;

(3) "global change" means changes in the global environment (including alterations in climate, land productivity, oceans or other water resources, atmospheric chemistry, and ecological systems) that may alter the capacity of the Earth to sustain life;

(4) "global change research" means study, monitoring, assessment, prediction, and information management activities to describe and understand—

(A) the interactive physical, chemical, and biological processes that regulate the total Earth system;

(B) the unique environment that the Earth provides for life;

(C) changes that are occurring in the Earth system; and

(D) the manner in which such system, environment, and changes are influenced by human actions;

(5) "Plan" means the National Global Change Research Plan developed under section 104, or any revision thereof; and

(6) "Program" means the United States Global Change Research Program established under section 103.

TITLE I—UNITED STATES GLOBAL CHANGE RESEARCH PROGRAM

15 USC 2931.

SEC. 101. FINDINGS AND PURPOSE.

(a) FINDINGS.—The Congress makes the following findings:

(1) Industrial, agricultural, and other human activities, coupled with an expanding world population, are contributing to processes of global change that may significantly alter the Earth habitat within a few human generations.

(2) Such human-induced changes, in conjunction with natural fluctuations, may lead to significant global warming and thus

alter world climate patterns and increase global sea levels. Over the next century, these consequences could adversely affect world agricultural and marine production, coastal habitability, biological diversity, human health, and global economic and social well-being.

(3) The release of chlorofluorocarbons and other stratospheric ozone-depleting substances is rapidly reducing the ability of the atmosphere to screen out harmful ultraviolet radiation, which could adversely affect human health and ecological systems.

(4) Development of effective policies to abate, mitigate, and cope with global change will rely on greatly improved scientific understanding of global environmental processes and on our ability to distinguish human-induced from natural global change.

(5) New developments in interdisciplinary Earth sciences, global observing systems, and computing technology make possible significant advances in the scientific understanding and prediction of these global changes and their effects.

(6) Although significant Federal global change research efforts are underway, an effective Federal research program will require efficient interagency coordination, and coordination with the research activities of State, private, and international entities.

(b) PURPOSE.—The purpose of this title is to provide for development and coordination of a comprehensive and integrated United States research program which will assist the Nation and the world to understand, assess, predict, and respond to human-induced and natural processes of global change.

SEC. 102. COMMITTEE ON EARTH AND ENVIRONMENTAL SCIENCES. 15 USC 2932.

(a) ESTABLISHMENT.—The President, through the Council, shall establish a Committee on Earth and Environmental Sciences. The Committee shall carry out Council functions under section 401 of the National Science and Technology Policy, Organization, and Priorities Act of 1976 (42 U.S.C. 6651) relating to global change research, for the purpose of increasing the overall effectiveness and productivity of Federal global change research efforts.

(b) MEMBERSHIP.—The Committee shall consist of at least one representative from—

(1) the National Science Foundation;

(2) the National Aeronautics and Space Administration;

(3) the National Oceanic and Atmospheric Administration of the Department of Commerce;

(4) the Environmental Protection Agency;

(5) the Department of Energy;

(6) the Department of State;

(7) the Department of Defense;

(8) the Department of the Interior;

(9) the Department of Agriculture;

(10) the Department of Transportation;

(11) the Office of Management and Budget;

(12) the Office of Science and Technology Policy;

(13) the Council on Environmental Quality;

(14) the National Institute of Environmental Health Sciences of the National Institutes of Health; and

(15) such other agencies and departments of the United States as the President or the Chairman of the Council considers appropriate.

Such representatives shall be high ranking officials of their agency or department, wherever possible the head of the portion of that agency or department that is most revelant to the purpose of the title described in section 101(b).

(c) CHAIRPERSON.—The Chairman of the Council, in consultation with the Committee, biennially shall select one of the Committee members to serve as Chairperson. The Chairperson shall be knowledgeable and experienced with regard to the administration of scientific research programs, and shall be a representative of an agency that contributes substantially, in terms of scientific research capability and budget, to the Program.

(d) SUPPORT PERSONNEL.—An Executive Secretary shall be appointed by the Chairperson of the Committee, with the approval of the Committee. The Executive Secretary shall be a permanent employee of one of the agencies or departments represented on the Committee, and shall remain in the employ of such agency or department. The Chairman of the Council shall have the authority to make personnel decisions regarding any employees detailed to the Council for purposes of working on business of the Committee pursuant to section 401 of the National Science and Technology Policy, Organization, and Priorities Act of 1976 (42 U.S.C. 6651).

(e) FUNCTIONS RELATIVE TO GLOBAL CHANGE.—The Council, through the Committee, shall be responsible for planning and coordinating the Program. In carrying out this responsibility, the Committee shall—

(1) serve as the forum for developing the Plan and for overseeing its implementation;

(2) improve cooperation among Federal agencies and departments with respect to global change research activities;

(3) provide budgetary advice as specified in section 105;

(4) work with academic, State, industry, and other groups conducting global change research, to provide for periodic public and peer review of the Program;

(5) cooperate with the Secretary of State in—

(A) providing representation at international meetings and conferences on global change research in which the United States participates; and

(B) coordinating the Federal activities of the United States with programs of other nations and with international global change research activities such as the International Geosphere-Biosphere Program;

(6) consult with actual and potential users of the results of the Program to ensure that such results are useful in developing national and international policy responses to global change; and

Reports.
President.
15 USC 2933.
Establishment.

(7) report at least annually to the President and the Congress, through the Chairman of the Council, on Federal global change research priorities, policies, and programs.

SEC. 103. UNITED STATES GLOBAL CHANGE RESEARCH PROGRAM.

The President shall establish an interagency United States Global Change Research Program to improve understanding of global change. The Program shall be implemented by the Plan developed under section 104.

SEC. 104. NATIONAL GLOBAL CHANGE RESEARCH PLAN. 15 USC 2934.

(a) IN GENERAL.—The Chairman of the Council, through the Committee, shall develop a National Global Change Research Plan for implementation of the Program. The Plan shall contain recommendations for national global change research. The Chairman of the Council shall submit the Plan to the Congress within one year after the date of enactment of this title, and a revised Plan shall be submitted at least once every three years thereafter.

(b) CONTENTS OF THE PLAN.—The Plan shall—

(1) establish, for the 10-year period beginning in the year the Plan is submitted, the goals and priorities for Federal global change research which most effectively advance scientific understanding of global change and provide usable information on which to base policy decisions relating to global change;

(2) describe specific activities, including research activities, data collection and data analysis requirements, predictive modeling, participation in international research efforts, and information management, required to achieve such goals and priorities;

(3) identify and address, as appropriate, relevant programs and activities of the Federal agencies and departments represented on the Committee that contribute to the Program;

(4) set forth the role of each Federal agency and department in implementing the Plan;

(5) consider and utilize, as appropriate, reports and studies conducted by Federal agencies and departments, the National Research Council, or other entities;

(6) make recommendations for the coordination of the global change research activities of the United States with such activities of other nations and international organizations, including—

(A) a description of the extent and nature of necessary international cooperation;

(B) the development by the Committee, in consultation when appropriate with the National Space Council, of proposals for cooperation on major capital projects;

(C) bilateral and multilateral proposals for improving worldwide access to scientific data and information; and

(D) methods for improving participation in international global change research by developing nations; and

(7) estimate, to the extent practicable, Federal funding for global change research activities to be conducted under the Plan.

(c) RESEARCH ELEMENTS.—The Plan shall provide for, but not be limited to, the following research elements:

(1) Global measurements, establishing worldwide observations necessary to understand the physical, chemical, and biological processes responsible for changes in the Earth system on all relevant spatial and time scales.

(2) Documentation of global change, including the development of mechanisms for recording changes that will actually occur in the Earth system over the coming decades.

(3) Studies of earlier changes in the Earth system, using evidence from the geological and fossil record.

(4) Predictions, using quantitative models of the Earth system to identify and simulate global environmental processes and

trends, and the regional implications of such processes and trends.

(5) Focused research initiatives to understand the nature of and interaction among physical, chemical, biological, and social processes related to global change.

(d) INFORMATION MANAGEMENT.—The Plan shall provide recommendations for collaboration within the Federal Government and among nations to—

(1) establish, develop, and maintain information bases, including necessary management systems which will promote consistent, efficient, and compatible transfer and use of data;

(2) create globally accessible formats for data collected by various international sources; and

(3) combine and interpret data from various sources to produce information readily usable by policymakers attempting to formulate effective strategies for preventing, mitigating, and adapting to the effects of global change.

(e) NATIONAL RESEARCH COUNCIL EVALUATION.—The Chairman of the Council shall enter into an agreement with the National Research Council under which the National Research Council shall—

(1) evaluate the scientific content of the Plan; and

(2) provide information and advice obtained from United States and international sources, and recommended priorities for future global change research.

(f) PUBLIC PARTICIPATION.—In developing the Plan, the Committee shall consult with academic, State, industry, and environmental groups and representatives. Not later than 90 days before the Chairman of the Council submits the Plan, or any revision thereof, to the Congress, a summary of the proposed Plan shall be published in the Federal Register for a public comment period of not less than 60 days.

Federal Register, publication.

15 USC 2935.

SEC. 105. BUDGET COORDINATION.

(a) COMMITTEE GUIDANCE.—The Committee shall each year provide general guidance to each Federal agency or department participating in the Program with respect to the preparation of requests for appropriations for activities related to the Program.

(b) SUBMISSION OF REPORTS WITH AGENCY APPROPRIATIONS REQUESTS.—(1) Working in conjunction with the Committee, each Federal agency or department involved in global change research shall include with its annual request for appropriations submitted to the President under section 1108 of title 31, United States Code, a report which—

(A) identifies each element of the proposed global change research activities of the agency or department;

(B) specifies whether each element (i) contributes directly to the Program or (ii) contributes indirectly but in important ways to the Program; and

(C) states the portion of its request for appropriations allocated to each element of the Program.

(2) Each agency or department that submits a report under paragraph (1) shall submit such report simultaneously to the Committee.

(c) CONSIDERATION IN PRESIDENT'S BUDGET.—(1) The President shall, in a timely fashion, provide the Committee with an opportunity to review and comment on the budget estimate of each

agency and department involved in global change research in the context of the Plan.

(2) The President shall identify in each annual budget submitted to the Congress under section 1105 of title 31, United States Code, those items in each agency's or department's annual budget which are elements of the Program.

SEC. 106. SCIENTIFIC ASSESSMENT. 15 USC 2936.

On a periodic basis (not less frequently than every 4 years), the Council, through the Committee, shall prepare and submit to the President and the Congress an assessment which—

(1) integrates, evaluates, and interprets the findings of the Program and discusses the scientific uncertainties associated with such findings;

(2) analyzes the effects of global change on the natural environment, agriculture, energy production and use, land and water resources, transportation, human health and welfare, human social systems, and biological diversity; and

(3) analyzes current trends in global change, both human-inducted and natural, and projects major trends for the subsequent 25 to 100 years.

SEC. 107. ANNUAL REPORT. 15 USC 2937.

(a) GENERAL.—Each year at the time of submission to the Congress of the President's budget, the Chairman of the Council shall submit to the Congress a report on the activities conducted by the Committee pursuant to this title, including—

(1) a summary of the achievements of the Program during the period covered by the report and of priorities for future global change research;

(2) an analysis of the progress made toward achieving the goals of the Plan;

(3) expenditures required by each agency or department for carrying out its portion of the Program, including—

(A) the amounts spent during the fiscal year most recently ended;

(B) the amounts expected to be spent during the current fiscal year; and

(C) the amounts requested for the fiscal year for which the budget is being submitted

(b) RECOMMENDATIONS.—The report required by subsection (b) shall include recommendations by the President concerning—

(1) changes in agency or department roles needed to improve implementation of the Plan; and

(2) additional legislation which may be required to achieve the purposes of this title.

SEC. 108. RELATION TO OTHER AUTHORITIES. 15 USC 2938.

(a) NATIONAL CLIMATE PROGRAM RESEARCH ACTIVITIES.—The President, the Chairman of the Council, and the Secretary of Commerce shall ensure that relevant research activities of the National Climate Program, established by the National Climate Program Act (15 U.S.C. 2901 et seq.), are considered in developing national global change research efforts.

(b) AVAILABILITY OF RESEARCH FINDINGS.—The President, the Chairman of the Council, and the heads of the agencies and departments represented on the Committee, shall ensure that the research

findings of the Committee, and of Federal agencies and departments, are available to—

(1) the Environmental Protection Agency for use in the formulation of a coordinated national policy on global climate change pursuant to section 1103 of the Global Climate Protection Act of 1987 (15 U.S.C. 2901 note); and

(2) all Federal agencies and departments for use in the formulation of coordinated national policies for responding to human-induced and natural processes of global change pursuant to other statutory responsibilities and obligations.

(c) EFFECT ON FEDERAL RESPONSE ACTIONS.—Nothing in this title shall be construed, interpreted, or applied to preclude or delay the planning or implementation of any Federal action designed, in whole or in part, to address the threats of stratospheric ozone depletion or global climate change.

International Cooperation in Global Change Research Act of 1990.

TITLE II—INTERNATIONAL COOPERATION IN GLOBAL CHANGE RESEARCH

15 USC 2921 note.

SEC. 201. SHORT TITLE.

This title may be cited as the "International Cooperation in Global Change Research Act of 1990".

15 USC 2951.

SEC. 202. FINDINGS AND PURPOSES.

(a) FINDINGS.—The Congress makes the following findings:

(1) Pooling of international resources and scientific capabilities will be essential to a successful international global change program.

(2) While international scientific planning is already underway, there is currently no comprehensive intergovernmental mechanism for planning, coordinating, or implementing research to understand global change and to mitigate possible adverse effects.

(3) An international global change research program will be important in building future consensus on methods for reducing global environmental degradation.

(4) The United States, as a world leader in environmental and Earth sciences, should help provide leadership in developing and implementing an international global change research program.

(b) PURPOSES.—The purposes of this title are to—

(1) promote international, intergovernmental cooperation on global change research;

(2) involve scientists and policymakers from developing nations in such cooperative global change research programs; and

(3) promote international efforts to provide technical and other assistance to developing nations which will facilitate improvements in their domestic standard of living while minimizing damage to the global or regional environment.

15 USC 2952.

SEC. 203. INTERNATIONAL DISCUSSIONS.

President.

(a) GLOBAL CHANGE RESEARCH.—The President should direct the Secretary of State, in cooperation with the Committee, to initiate discussions with other nations leading toward international protocols and other agreements to coordinate global change research activities. Such discussions should include the following issues:

(1) Allocation of costs in global change research programs, especially with respect to major capital projects.

(2) Coordination of global change research plans with those developed by international organizations such as the International Council on Scientific Unions, the World Meteorological Organization, and the United Nations Environment Program.

(3) Establishment of global change research centers and training programs for scientists, especially those from developing nations.

(4) Development of innovative methods for management of international global change research, including—

(A) use of new or existing intergovernmental organizations for the coordination or funding of global change research; and

(B) creation of a limited foundation for global change research.

(5) The prompt establishment of international projects to—

(A) create globally accessible formats for data collected by various international sources; and

(B) combine and interpret data from various sources to produce information readily usable by policymakers attempting to formulate effective strategies for preventing, mitigating, and adapting to possible adverse effects of global change.

(6) Establishment of international offices to disseminate information useful in identifying, preventing, mitigating, or adapting to the possible effects of global change.

(b) ENERGY RESEARCH.—The President should direct the Secretary of State (in cooperation with the Secretary of Energy, the Secretary of Commerce, the United States Trade Representative, and other appropriate members of the Committee) to initiate discussions with other nations leading toward an international research protocol for cooperation on the development of energy technologies which have minimally adverse effects on the environment. Such discussions should include, but not be limited to, the following issues: President.

(1) Creation of an international cooperative program to fund research related to energy efficiency, solar and other renewable energy sources, and passively safe and diversion-resistant nuclear reactors.

(2) Creation of an international cooperative program to develop low cost energy technologies which are appropriate to the environmental, economic, and social needs of developing nations.

(3) Exchange of information concerning environmentally safe energy technologies and practices, including those described in paragraphs (1) and (2).

SEC. 204. GLOBAL CHANGE RESEARCH INFORMATION OFFICE.

President. Establishment. 15 USC 2953.

Not more than 180 days after the date of enactment of this Act, the President shall, in consultation with the Committee and all relevant Federal agencies, establish an Office of Global Change Research Information. The purpose of the Office shall be to disseminate to foreign governments, businesses, and institutions, as well as the citizens of foreign countries, scientific research information available in the United States which would be useful in preventing, mitigating, or adapting to the effects of global change. Such informa-

tion shall include, but need not be limited to, results of scientific research and development on technologies useful for—

(1) reducing energy consumption through conservation and energy efficiency;

(2) promoting the use of solar and renewable energy sources which reduce the amount of greenhouse gases released into the atmosphere;

(3) developing replacements for chlorofluorocarbons, halons, and other ozone-depleting substances which exhibit a significantly reduced potential for depleting stratospheric ozone;

(4) promoting the conservation of forest resources which help reduce the amount of carbon dioxide in the atmosphere;

(5) assisting developing countries in ecological pest management practices and in the proper use of agricultural, and industrial chemicals; and

(6) promoting recycling and source reduction of pollutants in order to reduce the volume of waste which must be disposed of, thus decreasing energy use and greenhouse gas emissions.

TITLE III—GROWTH DECISION AID

15 USC 2961.

SEC. 301. STUDY AND DECISION AID.

(a) The Secretary of Commerce shall conduct a study of the implications and potential consequences of growth and development on urban, suburban, and rural communities. Based upon the findings of the study, the Secretary shall produce a decision aid to assist State and local authorities in planning and managing urban, suburban, and rural growth and development while preserving community character.

(b) The Secretary of Commerce shall consult with other appropriate Federal departments and agencies as necessary in carrying out this section.

Reports.

(c) The Secretary of Commerce shall submit to the Congress a report containing the decision aid produced under subsection (a) no later than January 30, 1992. The Secretary shall notify appropriate State and local authorities that such decision aid is available on request.

Approved November 16, 1990.

LEGISLATIVE HISTORY—S. 169:

SENATE REPORTS: No. 101-40 (Comm. on Commerce, Science, and Transportation).
CONGRESSIONAL RECORD, Vol. 136 (1990):
Feb. 6, considered and passed Senate.
Oct. 26, considered and passed House, amended.
Oct. 27, Senate concurred in House amendments.
WEEKLY COMPILATION OF PRESIDENTIAL DOCUMENTS, Vol. 26 (1990):
Nov. 16, Presidential remarks.

38-597 0 - 91 - 37

Public Law 101-609
101st Congress

An Act

To amend the Arctic Research and Policy Act of 1984 to improve and clarify its provisions.

Nov. 16, 1990
[S. 677]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. Except as specifically provided in this Act, whenever in this Act an amendment or repeal is expressed as an amendment to, or repeal of a provision, the reference shall be deemed to be made to the Arctic Research and Policy Act of 1984.

SEC. 2. Section 103(b)(1) (15 U.S.C. 4102(b)(1)) is amended—

(1) in the text above clause (A), by striking out "five" and inserting in lieu thereof "seven";

(2) in clause (A), by striking out "three" and inserting in lieu thereof "four"; and

(3) in clause (C), by striking out "one member" and inserting in lieu thereof "two members".

SEC. 3. Section 103(d)(1) (15 U.S.C. 4102(d)(1)) is amended by striking out "GS-16" and inserting in lieu thereof "GS-18".

SEC. 4. (a) Section 104(a) (15 U.S.C. 4102(a)) is amended— 15 USC 4103.

(1) in paragraph (4), by striking out "suggest" and inserting in lieu thereof "recommend";

(2) in paragraph (6), by striking out "suggest" and inserting in lieu thereof "recommend";

(3) in paragraph (7), by striking out "and" at the end thereof;

(4) in paragraph (8), by striking out the period and inserting in lieu thereof a semicolon; and

(5) by adding at the end thereof the following new paragraphs:

"(9) recommend to the Interagency Committee the means for developing international scientific cooperation in the Arctic; and Science and technology.

"(10) not later than January 31, 1991, and every 2 years thereafter, publish a statement of goals and objectives with respect to Arctic research to guide the Interagency Committee established under section 107 in the performance of its duties.".

(b) Section 104(b) is amended to read as follows:

"(b) Not later than January 31 of each year, the Commission shall submit to the President and to the Congress a report describing the activities and accomplishments of the Commission during the immediately preceding fiscal year.". Reports.

SEC. 5. Section 106 (15 U.S.C. 4105) is amended—

(1) in paragraph (3), by striking out "and" at the end thereof;

(2) in paragraph (4), by striking out the period at the end thereof and inserting in lieu thereof "; and"; and

(3) by adding at the end thereof the following new paragraph:

"(5) appoint, and accept without compensation the services of, scientists and engineering specialists to be advisors to the Commission. Each advisor may be allowed travel expenses, including per diem in lieu of subsistence, as authorized by Scientists. Engineers.

section 5703 of title 5, United States Code. Except for the purposes of chapter 81 of title 5 (relating to compensation for work injuries) and chapter 171 of title 28 (relating to tort claims) of the United States Code, an advisor appointed under this paragraph shall not be considered an employee of the United States for any purpose.".

SEC. 6. Subsection (b)(2) of section 108 (15 U.S.C. 4107(b)(2)) is amended to read as follows:

"(2) a statement detailing with particularity the recommendations of the Commission with respect to Federal interagency activities in Arctic research and the disposition and responses to those recommendations.".

Approved November 16, 1990.

LEGISLATIVE HISTORY—S. 677:

SENATE REPORTS: No. 101-405 (Comm. on Governmental Affairs).
CONGRESSIONAL RECORD, Vol. 136 (1990):
Sept. 24, considered and passed Senate.
Oct. 26, considered and passed House.

PUBLIC LAW 101-611—NOV. 16, 1990

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AUTHORIZATION ACT, FISCAL YEAR 1991

Public Law 101-611
101st Congress

An Act

Nov. 16, 1990
[S. 2287]

To authorize appropriations to the National Aeronautics and Space Administration for research and development, space flight, control and data communications, construction of facilities, and research and program management, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

National Aeronautics and Space Administration Authorization Act, Fiscal Year 1991.

SECTION 1. SHORT TITLE.

This Act may be cited as the "National Aeronautics and Space Administration Authorization Act, Fiscal Year 1991".

TITLE I—NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AUTHORIZATIONS

42 USC 2451 note.

SEC. 101. FINDINGS.

The Congress finds that—

(1) over the next decade, the United States aeronautics and space program will be directed toward major national priorities of understanding, preserving, and enhancing our global environment, hypersonic transportation, human exploration, and emerging technology commercialization;

(2) the United States aeronautics and space program is supported by an overwhelming majority of the American people;

(3) the United States aeronautics and space program genuinely reflects our Nation's pioneer heritage and demonstrates our quest for leadership, economic growth, and human understanding;

(4) the United States space program is based on a solid record of achievement and continues to promote the objective of international cooperation in the exploration of the planets and the universe;

(5) the United States aeronautics and space program generates critical technology breakthroughs that benefit our economy through new products and processes that significantly improve our standard of living;

(6) the United States aeronautics and space program excites the imagination of every generation and can stimulate the youth of our Nation toward the pursuit of excellence in the fields of science, engineering, and mathematics;

(7) the United States aeronautics and space program contributes to the Nation's technological competitive advantage;

(8) the United States aeronautics and space program requires a sustained commitment of financial and human resources as a share of the Nation's Gross National Product;

(9) the United States space transportation system will depend upon a robust fleet of space shuttle orbiters and expendable and reusable launch vehicles and services;

(10) the United States space program will be advanced with an assured funding stream for the development of a permanently manned space station with research, experimentation, observation, servicing, manufacturing, and staging capabilities for lunar and Mars missions;

(11) the United States aeronautics program has been a key factor in maintaining preeminence in aviation over many decades;

(12) the United States needs to maintain a strong program with respect to transatmospheric research and technology by developing and demonstrating National Aero-Space Plane technology by a mid-decade date certain;

(13) the National Aeronautics and Space Administration is primarily responsible for formulating and implementing policy that supports and encourages civil aeronautics and space activities in the United States; and

(14) commercial activities of the private sector will substantially and increasingly contribute to the strength of both the United States space program and the national economy.

SEC. 102. POLICY.

42 USC 2451 note.

It is declared to be national policy that the United States should—

(1) rededicate itself to the goal of leadership in critical areas of space science, space exploration, and space commercialization;

(2) increase its commitment of budgetary resources for the space program to reverse the dramatic decline in real spending for such program since the achievements of the Apollo moon program;

(3) ensure that the long-range environmental impact of all activities carried out under this title are fully understood and considered;

(4) promote and support efforts to advance scientific understanding by conducting or otherwise providing for research on environmental problems, including global change, ozone depletion, acid precipitation, deforestation, and smog;

(5) forge a robust national space program that maintains a healthy balance between manned and unmanned space activities and recognizes the mutually reinforcing benefits of both;

(6) maintain an active fleet of space shuttle orbiters, including an adequate provision of structural spare parts, and evolve the orbiter design to improve safety and performance, and reduce operational costs;

(7) sustain a mixed fleet by utilizing commercial expendable launch vehicle services to the fullest extent practicable;

(8) support an aggressive program of research and development designed to enhance the United States preeminence in launch vehicles;

(9) continue and complete on schedule the development and deployment of a permanently manned, fully capable, space station;

(10) develop an advanced, high pressure space suit to support extravehicular activity that will be required for Space Station Freedom when Assembly Complete is reached;

(11) establish a dual capability for logistics and resupply of the space station utilizing the space shuttle and expendable launch vehicles, including commercial services if available;

(12) continue to seek opportunities for international cooperation in space and fully support international cooperative agreements;

(13) maintain an aggressive program of aeronautical research and technology development designed to enhance the United States preeminence in civil and military aviation and improve the safety and efficiency of the United States air transportation system;

(14) conduct a program of technology maturation, including flight demonstration in 1997, to prove the feasibility of an air-breathing, hypersonic aerospace plane capable of single-stage-to-orbit operation and hypersonic cruise in the atmosphere;

(15) seek innovative technologies that will make possible advanced human exploration initiatives, such as the establishment of a lunar base and the succeeding mission to Mars, and provide high yield technology advancements for the national economy; and

(16) enhance the human resources of the Nation and the quality of education.

SEC. 103. AUTHORIZATION OF APPROPRIATIONS.

(a) AUTHORIZATIONS.—There are authorized to be appropriated to the National Aeronautics and Space Administration the following amounts:

(1) For "research and development", for the following programs:

(A) United States International Space Station Freedom:

(i) Notwithstanding section 201(a)(1)(A) of the National Aeronautics and Space Administration Authorization Act, Fiscal Year 1989, not more than $2,451,000,000 shall be made available for fiscal year 1991.

(ii) Such sums as are necessary from funds authorized for the United States International Space Station Freedom shall be used to initiate a flight test of the solar dynamic power program. By May 1, 1991, the Administrator shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives a report on the implementation plan for the conduct of a flight test of the solar dynamic power program.

Reports.

(B) Space transportation capability development, $723,400,000 for fiscal year 1991. Of such funds, $10,000,000 shall be used only for supporting heavy-lift launch vehicle studies, which shall include study of commercially developed variants as well as other appropriate concepts, rather than studying Shuttle-derived heavy-lift launch vehicles alone.

(C) Physics and astronomy, $985,000,000 for fiscal year 1991.

(D) Life sciences, $168,400,000 for fiscal year 1991. Of the amounts authorized for such purposes, by this or any other Act, for fiscal year 1991—

(i) $5,000,000 shall be used for the development of payloads for the Lifesat program; and

(ii) not less than $400,000 shall be used for space food processing studies and bioregenerative modeling assessments.

(E) Planetary exploration, $337,200,000 for fiscal year 1991.

(F) Earth sciences:

(i) $542,500,000 for fiscal year 1991, of which $5,000,000 shall be made available for the conduct of an advanced sensor technology demonstration program, $35,000,000 shall be made available for Earth Probes, including the development of the Total Ozone Mapping Spectrometer, and $44,300,000 shall be made available for Modeling and Data Analysis, including the development of Earth Science Data Directories and remote sensing data conversion.

(ii) Notwithstanding section 201(a)(1)(A) of the National Aeronautics and Space Administration Authorization Act, Fiscal Year 1989, not more than $132,000,000 may be made available for the Earth Observing System Platform for fiscal year 1991.

(G) Materials processing in space, $97,300,000 for fiscal year 1991.

(H) Communications, $52,800,000 for fiscal year 1991, including not more than $2,000,000 for experimenter ground stations for the Advanced Communications Technology Satellite, but only if the experimenter receiving funds obtains at least an equal amount of funds from sources other than the National Aeronautics and Space Administration.

(I) Information systems, $36,800,000 for fiscal year 1991.

(J) Technology utilization, $24,400,000 for fiscal year 1991.

(K) Commercial use of space, $76,600,000 for fiscal year 1991.

(L) Aeronautical research and technology, $537,000,000 for fiscal year 1991.

(M) Transatmospheric research and technology, $119,000,000 for fiscal year 1991.

(N) Space research and technology, $412,900,000 for fiscal year 1991. Of the amounts authorized for the Exploration Technology program, by this or any other Act, for fiscal year 1991, at least 10 percent shall be for university contracts and grants.

(O) Exploration mission studies, $21,000,000 for fiscal year 1991, which is authorized for studies conducted by the National Aeronautics and Space Administration. The Administrator shall provide to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate, by March 15, 1991, a report setting forth the goals for academic participation and enhancement of the educational infrastructure with regard to the human exploration initiative. Reports.

(P) Safety, reliability, and quality assurance, $33,000,000 for fiscal year 1991.

(Q) Tracking and data advanced systems, $20,000,000 for fiscal year 1991.

(R) University Space Science and Technology Academic Program, $50,100,000 for fiscal year 1991.

Reports.

(S) Comet Rendezvous Asteroid Flyby/Cassini mission, not to exceed $1,600,000,000, for development, launch, and 30 days of operations thereof, to remain available until expended, of which—

(i) $490,000,000 shall be available for obligation after October 1, 1989;

(ii) an additional $370,000,000 shall be available for obligation 30 days after the submission of a report summarizing the results of a preliminary design review to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate;

(iii) an additional $640,000,000 shall be available for obligation 30 days after the submission of a report summarizing the results of a critical design review to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate; and

(iv) an additional $100,000,000 shall be available for obligation 30 days after the submission of a report summarizing the results of a spacecraft integration and systems test to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate.

A cost containment plan shall be submitted to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate by January 31, 1991, and updated on July 31 and January 31 of each succeeding year until such funds are expended.

(2) For "space flight, control, and data communications", for the following programs:

(A) Shuttle production and operational capability, $1,364,000,000 for fiscal year 1991. Of such funds, $45,000,000 shall be used only for carrying out the safety modifications recommended by the Aerospace Safety Advisory Panel and for such other safety related elements of an Assured Shuttle Availability Program as the Administrator considers necessary. By September 30, 1991, the Administrator shall submit to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a full report on the completion of planned safety enhancements.

Reports.

(B) Shuttle transportation operations, $2,831,400,000 for fiscal year 1991, of which $4,000,000 shall be made available for the provision of launch services for eligible satellites in accordance with section 6 of the Commercial Space Launch Act Amendments of 1988.

(C) Expendable launch vehicle services, $229,200,000 for fiscal year 1991.

(D) Space and ground network, communications, and data systems, $868,800,000 for fiscal year 1991.

(E) Tracking and data relay satellite system, $1,209,732,000 for fiscal year 1991, which shall be used only for the purpose of reducing all outstanding debt to the Federal Financing Bank.

(3) For "construction of facilities" for fiscal year 1991 as follows:

(A) Construction of Neutral Buoyancy Laboratory, Johnson Space Center, $15,000,000.

(B) Construction of Space Station Processing Facility, Kennedy Space Center, $25,000,000.

(C) Construction of Addition for Flight Training and Operations, Johnson Space Center, $12,000,000.

(D) Rehabilitation of Mission Control Center Power and Control Systems, Johnson Space Center, $8,500,000.

(E) Construction of Transporter/Canister Facility, Kennedy Space Center, $5,500,000.

(F) Construction of Processing Control Center, Kennedy Space Center, $9,400,000.

(G) Replacement of Heating, Ventilating, and Air Conditioning System, Hypergolic Maintenance Facility, Kennedy Space Center, $2,100,000.

(H) Replacement of Operations and Checkout Building, West Cooling Tower, Kennedy Space Center, $1,000,000.

(I) Restoration of Heavy Equipment Area, Kennedy Space Center, $900,000.

(J) Upgrade of Orbiter Processing Facility High Bay Heating, Ventilating, and Air Conditioning System, Kennedy Space Center, $3,300,000.

(K) Upgrade of Yundum International Airport to Full Transoceanic Abort Landing Site, Banjul, The Gambia, $3,400,000.

(L) Repair of Condensate System, Main Manufacturing Building, Michoud Assembly Facility, $900,000.

(M) Construction of Project Engineering Facility, Marshall Space Flight Center, $17,000,000.

(N) Restoration of Information and Electronic Systems Laboratory, Marshall Space Flight Center, $4,000,000.

(O) Rehabilitation of Hydrogen Transfer Facility, Stennis Space Center, $2,700,000.

(P) Restoration of Space Shuttle Main Engine Test Complex "A", Stennis Space Center, $2,800,000.

(Q) Construction of Advanced Solid Rocket Motor Program Facilities, including land acquisition, various locations, $92,000,000.

(R) Construction of Addition to Site Electrical Substation, Johnson Space Center, $11,000,000.

(S) Addition to Administration and Engineering Building, Stennis Space Center, $3,800,000.

(T) Construction of Earth Observing System Data Information System Facility, Goddard Space Flight Center, $8,000,000.

(U) Construction of Detector Development Laboratory, Goddard Space Flight Center, $3,100,000.

(V) Replacement of Chillers, Central Heating/Refrigeration Plant, Goddard Space Flight Center, $4,000,000.

(W) Replacement/Modernization of Electrical Power Feeders, Goddard Space Flight Center, $1,500,000.

(X) Construction of Observational Instruments Laboratory, Jet Propulsion Laboratory, $14,000,000.

(Y) Refurbishment of 25-Foot Space Simulator, Jet Propulsion Laboratory, $13,200,000.

(Z) Restoration of Utilities, Wallops Flight Facility, $5,200,000.

(AA) Modifications to the High Pressure Air System, Langley Research Center, $12,000,000.

(BB) Modifications to Upgrade the 30 x 60-Foot Wind Tunnel, Langley Research Center, $4,000,000.

(CC) Repairs to the Tunnel Shell, Unitary Plan Wind Tunnel, Langley Research Center, $2,700,000.

(DD) Rehabilitation of Central Air System, Lewis Research Center, $7,900,000.

(EE) Rehabilitation of Propulsion Systems Laboratory, Lewis Research Center, $6,000,000.

(FF) Construction of Liquid Hydrogen Structural Test Facility, Dryden Flight Research Facility, $18,800,000.

(GG) Rehabilitation and Modification of the Electrical Distribution System, Dryden Flight Research Facility, $4,000,000.

(HH) Construction of Addition for Light-Alloy Research Laboratory, Langley Research Center, $4,600,000.

(II) Construction of Space Experiments Laboratory, Lewis Research Center, $7,100,000.

(JJ) Refurbishment of Electric Power Laboratory, Lewis Research Center, $8,900,000.

(KK) Construction of 34-Meter Multifrequency Antenna at Goldstone, CA, Jet Propulsion Laboratory, $13,200,000.

(LL) Rehabilitation of 70-Meter Antenna Drive Gear Boxes in Australia, Spain, and Goldstone, CA, Jet Propulsion Laboratory, $4,400,000.

(MM) Repair of facilities at various locations, not to exceed $1,000,000 per project, $30,000,000.

(NN) Rehabilitation and modification of facilities at various locations, not to exceed $1,000,000 per project, $34,000,000.

(OO) Minor construction of new facilities and additions to existing facilities at various locations, not to exceed $750,000 per project, $11,000,000.

(PP) Environmental compliance and restoration, $32,000,000.

(QQ) Facility planning and design not otherwise provided for, $28,000,000.

(4) For "research and program management", for fiscal year 1991, $2,252,900,000.

(5) For "Inspector General", $11,000,000 for fiscal year 1991.

(b) LIMITATIONS.—(1)(A) Notwithstanding paragraph (4), appropriations authorized under this section for "research and development" and "space flight, control, and data communications" may be used—

(i) for any items of a capital nature (other than acquisition of land) which may be required at locations other than installations of the National Aeronautics and Space Administration for the performance of research and development contracts; and

(ii) for grants to nonprofit institutions of higher education, or to nonprofit organizations whose primary purpose is the conduct of scientific research, for purchase or construction of additional research facilities. Grant programs.

Title to facilities described in clause (ii) shall be vested in the United States unless the Administrator determines that the national program of aeronautical and space activities will best be served by vesting title in any such grantee institution or organization. Each such grant shall be made under such conditions as the Administrator shall determine to be required to ensure that the United States will receive therefrom benefit adequate to justify the making of that grant. Grant programs.

(B) None of the funds appropriated for "research and development" and "space flight, control, and data communications" pursuant to this title may be used in accordance with this paragraph for the construction of any facility, the estimated cost of which, including collateral equipment, exceeds $750,000, unless the Administrator has notified the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate, of the nature, location, and estimated cost of such facility.

(2) Any amount appropriated pursuant to this title for "research and development", for "space flight, control and data communications", or for "construction of facilities" may remain available until expended. Any amount appropriated pursuant to this title for "research and program management" for maintenance and operation of facilities, and for other services, shall remain available through the next fiscal year after the fiscal year for which such amount is appropriated. 42 USC 2459a.

(3) Appropriations made pursuant to subsection (a)(4) may be used, but not to exceed $35,000, for scientific consultations or extraordinary expenses upon the approval or authority of the Administrator, and his determination shall be final and conclusive upon the accounting officers of the Government.

(4)(A) Funds appropriated pursuant to subsection (a) (1), (2), and (4) may be used for the construction of new facilities and additions to, or repair, rehabilitation, or modification of existing facilities, but only if the cost of each such project, including collateral equipment, does not exceed $200,000.

(B) Funds appropriated pursuant to subsection (a) (1) and (2) may be used for unforeseen programmatic facility project needs, but only if the cost of each such project, including collateral equipment, does not exceed $750,000.

(C) Funds appropriated pursuant to subsection (a)(4) may be used for repair, rehabilitation, or modification of facilities controlled by the General Services Administration, but only if the cost of each project, including collateral equipment, does not exceed $500,000.

SEC. 104. CONSTRUCTION OF FACILITIES REPROGRAMMING.

Authorization is hereby granted whereby any of the amounts prescribed in section 103(a)(3)(A) through (QQ)—

(1) may be varied upward 10 percent, in the discretion of the Administrator or the Administrator's designee, or

(2) following a report by the Administrator or the Administrator's designee to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate, on the Reports.

circumstances of such, may be varied upward 25 percent to meet unusual cost variations.

The total cost of all work authorized under paragraphs (1) and (2) shall not exceed the total of amounts specified in section 103(a)(3) (A) through (QQ).

SEC. 105. SPECIAL REPROGRAMMING AUTHORITY FOR CONSTRUCTION OF FACILITIES.

Where the Administrator determines that new developments or scientific or engineering changes in the national program of aeronautical and space activities have occurred; and that such changes require the use of additional funds for the purposes of construction, expansion, or modification of facilities at any location; and that deferral of such action until the enactment of the next authorization Act would be inconsistent with the interest of the Nation in aeronautical and space activities; the Administrator may transfer not to exceed one-half of 1 percent of the funds appropriated pursuant to section 103(a) (1) or (2) to the "construction of facilities" appropriation for such purposes. The Administrator may also use up to $10,000,000 of the amounts authorized under section 103(a)(3) for such purposes. The funds so made available pursuant to this section may be expended to acquire, construct, convert, rehabilitate, or install permanent or temporary public works, including land acquisition, site preparation, appurtenances, utilities, and equipment.

Reports.

No such funds may be obligated until a period of 30 days has passed after the Administrator or the Administrator's designee has transmitted to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a written report describing the nature of the construction, its cost, and the reasons therefor.

SEC. 106. CONSIDERATION BY COMMITTEES.

Notwithstanding any other provision of this title—

(1) no amount appropriated pursuant to this title may be used for any program deleted by the Congress from requests as originally made to either the Committee on Science, Space, and Technology of the House of Representatives or the Committee on Commerce, Science, and Transportation of the Senate;

(2) no amount appropriated pursuant to this title may be used for any program in excess of the amount actually authorized for that particular program by section 103(a) (1), (2), and (4); and

(3) no amount appropriated pursuant to this title may be used for any program which has not been presented to either such committee,

unless a period of 30 days has passed after the receipt by each such committee of notice given by the Administrator containing a full and complete statement of the action proposed to be taken and the facts and circumstances relied upon in support of such proposed action. The National Aeronautics and Space Administration shall keep the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate fully and currently informed with respect to all activities and responsibilities within the jurisdiction of those committees. Any Federal department, agency, or independent establishment shall furnish any information requested by either committee relating to any such activity or responsibility.

SEC. 107. AMENDMENTS TO THE NATIONAL AERONAUTICS AND SPACE ACT OF 1958.

Section 203(a) of the National Aeronautics and Space Act of 1958 (42 U.S.C. 2473(a)) is amended by—

(1) striking "and" at the end of paragraph (2);

(2) striking the period at the end of paragraph (3) and inserting in lieu thereof a semicolon; and

(3) adding at the end the following new paragraphs:

"(4) seek and encourage, to the maximum extent possible, the fullest commercial use of space; and

"(5) encourage and provide for Federal Government use of commercially provided space services and hardware, consistent with the requirements of the Federal Government.".

SEC. 108. NATIONAL SPACE COUNCIL AUTHORIZATION.

42 USC 2471 note.

(a) There are authorized to be appropriated to carry out the activities of the National Space Council established by section 501 of the National Aeronautics and Space Administration Authorization Act, Fiscal Year 1989 (42 U.S.C. 2471), $1,363,000 for fiscal year 1991, of which not more than $1,000 shall be available for official reception and representation expenses. The National Space Council shall reimburse other agencies for not less than one-half of the personnel compensation costs of individuals detailed to it.

(b) It is the sense of Congress that the National Space Council should, by October 1, 1991, establish guidelines and policy recommendations, including the need for licensing, for the conduct of expendable launch vehicle operations in which a Federal agency assumes substantial responsibility for public safety, indemnification, and administrative oversight.

SEC. 109. GEOGRAPHICAL DISTRIBUTION.

42 USC 2459 note.

The Administrator shall distribute research and development funds geographically in order to provide the broadest practicable participation in the programs of the National Aeronautics and Space Administration.

SEC. 110. BUY AMERICAN.

Government contracts.

(a) GENERAL RULE.—The Administrator shall award to a domestic firm a contract that, under the use of competitive procedures, would be awarded to a foreign firm, if—

(1) the final product of the domestic firm will be completely assembled in the United States;

(2) when completely assembled, not less than 51 percent of the final product of the domestic firm will be domestically produced; and

(3) the difference between the bids submitted by the foreign and domestic firms is not more than 6 percent.

(b) EXCEPTIONS.—This section shall not apply to the extent to which—

(1) such applicability would not be in the public interest;

(2) compelling national security considerations require otherwise; or

(3) the United States Trade Representative determines that such an award would be in violation of the General Agreement on Tariffs and Trade or an international agreement to which the United States is a party.

(c) DEFINITIONS.—For purposes of this section—

(1) the term "domestic firm" means a business entity that is incorporated in the United States and that conducts business operations in the United States;

(2) the term "foreign firm" means a business entity not described in paragraph (1).

(d) LIMITATION.—This section shall apply only to contracts for which—

(1) amounts are made available pursuant to this title; and

(2) solicitations for bids are issued after the date of enactment of this Act.

Reports.

SEC. 111. ADVANCED SOLID ROCKET MOTOR.

The Administrator shall submit to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate the following:

(1) A report on the projected cost to complete the design, development, and qualification of the Advanced Solid Rocket Motor. The first report shall be submitted by March 1, 1991, and thereafter with the National Aeronautics and Space Administration's annual budget request.

(2) An annual report on the projected unit cost of the flight motors.

(3) An annual report on the increase in space shuttle payload capability provided by the Advanced Solid Rocket Motor. The report shall include the original baseline payload capability, adjustments to that baseline capability, and the projected payload capability.

(4) An assessment by the National Research Council by July 1, 1991, of the quality assurance and testing program that will ensure the achievement of safety and reliability for the Advanced Solid Rocket Motor.

42 USC 2465a.

SEC. 112. SPACE SHUTTLE USE POLICY.

(a)(1) It shall be the policy of the United States to use the Space Shuttle for purposes that (i) require the presence of man, (ii) require the unique capabilities of the Space Shuttle or (iii) when other compelling circumstances exist.

(2) The term "compelling circumstances" includes, but is not limited to, occasions when the Administrator determines, in consultation with the Secretary of Defense and the Secretary of State, that important national security or foreign policy interests would be served by a Shuttle launch.

(3) The policy stated in subsection (a)(1) shall not preclude the use of available cargo space, on a Space Shuttle mission otherwise consistent with the policy described under subsection (a)(1), for the purpose of carrying secondary payloads (as defined by the Administrator) that do not require the presence of man if such payloads are consistent with the requirements of research, development, demonstration, scientific, commercial, and educational programs authorized by the Administrator.

Reports.

(b) The Administrator shall, within six months after the date of enactment of this Act, submit a report to the Congress setting forth a plan for the implementation of the policy described in subsection (a)(1). Such plan shall include—

(1) details of the implementation plan;

(2) a list of purposes that meet such policy;

(3) a proposed schedule for the implementation of such policy;

(4) an estimate of the costs to the United States of implementing such policy; and

(5) a process for informing the Congress in a timely and regular manner of how the plan is being implemented.

(c) At least annually, the Administrator shall submit to the Congress a report certifying that the payloads scheduled to be launched on the space shuttle for the next four years are consistent with the policy set forth in subsection (a)(1). For each payload scheduled to be launched from the space shuttle, which do not require the presence of man, the Administrator shall, in the certified report to Congress, state the specific circumstances which justified the use of the space shuttle. If, during the period between scheduled reports to the Congress, any additions are made to the list of certified payloads intended to be launched from the Shuttle, the Administrator shall inform the Congress of the additions and the reasons therefor within 45 days of the change. Reports.

(d) The report described in subsection (c) shall also include those National Aeronautics and Space Administration payloads designed solely to fly on the space shuttle which have begun the phase C/D of its development cycle.

SEC. 113. LIFE SCIENCES STRATEGIC PLAN. 42 USC 2451 note.

(a) FINDINGS.—The Congress finds that—

(1) the current knowledge base in life sciences is not compatible with the National Aeronautics and Space Administration's current objectives in space, and the National Aeronautics and Space Administration lacks an adequate strategic plan to acquire a knowledge base;

(2) it is critical to the success of manned missions in space, be they commercial operations of microgravity laboratories or manned missions to Mars, that a realistic appraisal of the influences of the space environment on biological systems is completed and appropriate protective countermeasures developed;

(3) the space station is rapidly approaching design maturity without a corresponding development of the physiological and other human factors knowledge base necessary for long-term manned operations in space; and

(4) space station laboratory hardware specifications are being fixed before fully establishing the objectives and requirements for life sciences research.

(b) STRATEGIC PLAN.—The Administration shall—

(1) review currently proposed manned space flight missions in order to—

(A) identify the physiological and other human factors knowledge base necessary to determine the human capacity to adapt to and perform effectively in the space environment according to mission requirements, including identifying which life sciences parameters must be measured and which technologies, processes, and procedures must be developed; and

(B) develop a schedule indicating when specific components of information, technologies, processes, or procedures identified under subparagraph (A) will need to be acquired or developed in order to verify that human adaptability

requirements of manned space flight missions can be achieved;

(2) develop a strategy plan for life sciences research and technology development sufficient to accomplish the life sciences knowledge base acquisition schedule developed under paragraph (1)(B), including—

(A) a crew certification plan setting acceptable crew conditioning standards for Extended Duration Orbiter operations and verifying countermeasures sufficient to meet those standards before actual Extended Duration Orbiter operations; and

(B) a life sciences implementation plan for the design and development of the space station, to be provided as part of the Preliminary Design Review for the space station, and to include crew adaptability standards; and

(3) verify the physiological and technical feasibility of the life sciences implementation plan developed under paragraph (2)(B), as part of the Critical Design Review for the space station.

42 USC 2471 note.

SEC. 114. STUDY ON INTERNATIONAL COOPERATION IN PLANETARY EXPLORATION.

(a) FINDINGS.—The Congress finds that—

(1) the President on July 20, 1989, established the long-range goal of establishing a lunar base, followed by manned exploration of Mars in the early twenty-first century;

(2) the United States and the Soviet Union, in cooperation with other countries, are currently planning further unmanned missions to the Moon and to Mars with the possible goal of landing a human on Mars;

(3) a series of international missions to expand human presence beyond Earth orbit would further a spirit of, and follow through on the commitment made in, the 1987 agreement between the Soviet Union and the United States for space cooperation, as well as the successful cooperative agreements the United States has pursued with over one hundred countries since its inception, including the agreement with Japan, Canada, and the European countries for Space Station Freedom;

(4) international manned missions beyond Earth orbit could further encourage a cooperative approach in world affairs unrelated to activities in space;

(5) international manned missions beyond Earth orbit could save the individual nations involved tens of billions of dollars over national missions; and

(6) a multilateral effort for manned missions to establish a lunar colony, a Mars mission, and any other missions that have the goal of establishing human presence beyond Earth's orbit and possibly landing a human on Mars would lead to greater understanding of our universe and greater sensitivity to our own planet.

(b) STUDY.—The National Space Council shall conduct a study on International Cooperation in Planetary Exploration (hereafter in this section referred to as the "study").

(c) PURPOSE OF STUDY.—The purpose of the study is—

(1) to develop an inventory of technologies and intentions of all national space agencies with regard to lunar and planetary exploration, both manned and unmanned;

(2) to seek ways, through direct communication with appropriate officials of other nations or otherwise, to enhance the planning and exchange of information and data among the United States, the Soviet Union, European countries, Canada, Japan, and other interested countries with respect to unmanned projects beyond Earth orbit, in anticipation of later international manned missions to the Moon and to other bodies, including the possible goal of an international manned mission to Mars; United States. Union of Soviet Socialist Republics. Canada. Japan. European countries.

(3) to prepare a detailed proposal that most efficiently uses the resources of the national space agencies in cooperative endeavors to establish human presence beyond Earth orbit;

(4) to develop priority goals that accomplish unmet needs that could not be achieved by any individual country;

(5) to explore the possibilities of international unmanned probes to the Moon and Mars, and the possibilities for international manned missions beyond Earth's orbit; and

(6) to devise strategies for such cooperation that would prevent the unwanted transfer of technology.

In developing the inventory under paragraph (1), and in preparing the detailed proposal under paragraph (3), consideration shall be given to the potential contributions of commercial providers of space goods and services.

(d) REPORT.—The National Space Council shall, within one year after the date of the enactment of this Act, prepare and submit to Congress a report—

(1) outlining a preliminary strategy for cooperation among the United States, the Soviet Union, European countries, Canada, Japan, and other interested countries, based on their respective national strengths, with respect to unmanned projects beyond Earth orbit, in anticipation of later international manned missions to the Moon and to other bodies, including the possible goal of an international manned mission to Mars;

(2) including a conceptual design of a possible international manned mission, in coordination with the preliminary strategy referred to in paragraph (1), with target dates and a breakdown of responsibilities by nation;

(3) containing an inventory of planned and anticipated missions, manned and unmanned, that are being considered by national space agencies and commercial providers of space goods and services; and

(4) containing an inventory of space exploration technologies that either—

(A) are not immediately available in the United States but are available from other nations; or

(B) are available in the United States but are available from other nations in equal or superior form.

SEC. 115. OFFICE OF SPACE COMMERCE.

(a) AUTHORIZATION.—There are authorized to be appropriated to the Secretary of Commerce for the Office of Space Commerce, $487,000 for fiscal year 1991.

(b) REPORT TO CONGRESS.—Commencing in fiscal year 1992, and every fiscal year thereafter, the Secretary of Commerce shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the 15 USC 1535.

House of Representatives a report of the activities of the Office of Space Commerce, including planned programs and expenditures.

42 USC 2451 note.

SEC. 116. NATIONAL AERO-SPACE PLANE PROGRAM.

(a) NATIONAL AERO-SPACE PLANE PROGRAM.—The Secretary of Defense (hereafter in this section referred to as the "Secretary") and the Administrator shall jointly pursue on a high priority basis a National Aero-Space Plane program whose objective shall be the development and demonstration, by 1997, of a primarily air breathing single-stage-to-orbit and long range hypersonic cruise research flight vehicle. The program shall be a research program, and to the extent practicable technological information developed shall be transferred to the military and to the domestic civil aviation and other private industries.

(b) MANAGEMENT PLAN.—

(1) The Secretary and the Adminstrator shall jointly develop a management plan for the program established under subsection (a), which shall include goals, major tasks, anticipated schedules, organizational structure, funding profiles, details of the respective responsibilities of the Secretary and the Administrator, and resource procurement strategies.

(2) The management plan developed pursuant to paragraph (1) shall be submitted to the Congress within 120 days after the date of enactment of this Act.

SEC. 117. COMMERCIAL SPACE LAUNCH ACT AMENDMENTS.

(a) AUTHORIZATION.—Section 24 of the Commercial Space Launch Act (49 U.S.C. App. 2623) is amended by adding at the end thereof the following: "There are authorized to be appropriated to the Secretary to carry out this Act $4,517,000 for fiscal year 1991, of which $250,000 shall be made available for the provision of launch services for eligible satellites in accordance with section 6 of the Commercial Space Launch Act Amendments of 1988.".

(b) ACQUISITION BY STATE GOVERNMENTS.—Section 15(a) of the Commercial Space Launch Act (49 U.S.C. App. 2614(a)) is amended by inserting "and State governments" after "by the private sector".

(c) CONGRESSIONAL FINDINGS.—Section 2 of the Commercial Space Launch Act (49 U.S.C. App. 2601) is amended—

(1) by striking "and" at the end of paragraph (6);

(2) by striking the period at the end of paragraph (7) and inserting in lieu thereof a semicolon; and

(3) by adding at the end the following new paragraphs;

"(8) space transportation, including the establishment and operation of launch sites and complementary facilities, the provision of launch services, the establishment of support facilities, and the provision of support services, is an important element of the Nation's transportation system, and in connection with the commerce of the United States there is a need to develop a strong space transportation infrastructure with significant private sector involvement; and

State governments.

"(9) the participation of State governments in encouraging and facilitating private sector involvement in space-related activity, particularly through the establishment of space transportation-related infrastructure, including launch sites, complementary facilities, and launch site support facilities, is in the national interest and is of significant public benefit.".

(d) CONGRESSIONAL STATEMENT OF PURPOSE.—Section 3 of the Commercial Space Launch Act (49 U.S.C. App. 2602) is amended—

(1) by striking "and" at the end of paragraph (2);

(2) by striking the period at the end of paragraph (3) and inserting in lieu thereof "; and"; and

(3) by inserting at the end the following new paragraph:

"(4) to facilitate the strengthening and expansion of the United States space transportation infrastructure, including the enhancement of United States launch sites, as well as launch site support facilities, with Federal, State, and private sector involvement, to support the full range of United States space-related activities.". Intergovernmental relations.

(e) GENERAL RESPONSIBILITIES OF SECRETARY.—Section 5(a) of the Commercial Space Launch Act (49 U.S.C. App. 2604(a)) is amended—

(1) by striking "and" at the end of paragraph (1);

(2) by striking the period at the end of paragraph (2) and inserting in lieu thereof "; and";

(3) by adding at the end the following new paragraph:

"(3) work to facilitate private sector involvement in commercial space transportation activity, and to promote public-private partnerships involving the Federal Government, State governments, and the private sector to build, expand, modernize, or operate space launch infrastructure.". Intergovernmental relations.

SEC. 118. SPACE DEBRIS.

(a) FINDINGS.—The Congress finds that—

(1) if space users fail to act soon to reduce their contribution to debris in space, orbital debris could severely restrict the use of some orbits within a decade;

(2) the lack of adequate data on the orbital distribution and size of debris will continue to hamper efforts to reduce the threat that debris poses to spacecraft; and

(3) existing international treaties and agreements are inadequate for minimizing the generation of orbital debris or controlling its effects.

(b) SENSE OF CONGRESS.—It is the sense of Congress that the goal of United States policy should be that—

(1) the space related activities of the United States should be conducted in a manner that does not increase the amount of orbital space debris; and

(2) the United States should engage other spacefaring Nations to develop an agreement on the conduct of space activities that ensures that the amount of orbital space debris is not increased.

SEC. 119. SUPPORT FOR SPACE SHUTTLE ORBITER PRODUCTION LINE.

The Administrator is authorized to expend excess funds appropriated for orbiter production under section 101(g) of the joint resolution entitled "Joint Resolution making continuing appropriations for the fiscal year 1987, and for other purposes" (100 Stat. 3341-242) to maintain the space shuttle orbiter production line and related production lines of orbiter subcontractors.

SEC. 120. INDUSTRIAL APPLICATION CENTERS.

In any agreement entered into by the National Aeronautics and Space Administration for an Industrial Application Center, the center shall be allowed to retain all client income without any

deductions from appropriated funds received or to be received by that center.

SEC. 121. USERS' ADVISORY GROUP.

(a) ESTABLISHMENT.—(1) The National Space Council shall establish a Users' Advisory Group composed of non-Federal representatives of industries and other persons involved in aeronautical and space activities.

(2) The Vice President shall name a chairman of the Users' Advisory Group.

(3) The National Space Council shall from time to time, but not less than once a year, meet with the Users' Advisory Group.

(4) The function of the Users' Advisory Group shall be to ensure that the interests of industries and other non-Federal entities involved in space activities, including in particular commercial entities, are adequately represented in the National Space Council.

(5) The Users' Advisory Group may be assisted by personnel detailed to the National Space Council.

(b) EXEMPTION.—The Users' Advisory Group shall not be subject to section 14(a)(2) of the Federal Advisory Committee Act.

SEC. 122. SCIENTIFIC BALLOON LAUNCH SITE.

The Administrator may purchase approximately 8 acres within section 16, Township 3 North, Range 26 East, N.M.P.M., De Baca County, New Mexico, to use as a balloon launching facility.

SEC. 123. PEACEFUL USES OF SPACE STATION.

No civil space station authorized under section 103(a)(1) of this Act may be used to carry or place in orbit any nuclear weapon or any other weapon of mass destruction, to install any such weapon on any celestial body, or to station any such weapon in space in any other manner. This civil space station may be used only for peaceful purposes.

SEC. 124. SMALL BUSINESS INNOVATION RESEARCH PROGRAM.

The Administrator may utilize up to 5 percent of the funds provided for the Small Business Innovation Research Program for program management and promotional activities.

SEC. 125. PROPULSION STRATEGIC ASSESSMENT.

By July 1, 1991, the Administrator shall submit to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate an assessment by the National Research Council of the requirements, benefits, technological feasibility, and roles of Earth-to-orbit propulsion system options that could be developed in support of the national space program including the assembly and operation of the Space Station and potential space activities beyond the year 2000.

SEC. 126. NATIONAL CIVIL REMOTE-SENSING ADVISORY COMMITTEE.

Not later than 90 days after the date of enactment of this Act, the Director of the Office of Science and Technology Policy shall report to the Congress on the advisability of establishing a permanent National Civil Remote-Sensing Advisory Committee. The report should address concerns related to national security, conflict of interest, and duplication of existing authorities. In preparing the report, the Director shall assess the effectiveness of a National Civil

Remote-Sensing Advisory Committee comprised of interested private-sector persons (including remote-sensing data users, data vendors, technology developers, system operators, information management and telecommunications specialists, and social scientists) which would—

(1) provide advice and policy recommendations to the President, the President's Science Advisor, the National Aeronautics and Space Administration, the National Oceanic and Atmospheric Administration, and relevant committees of the Congress on the development of a national civil remote-sensing policy that would be responsive to both user needs and global developments, in terms of—

(A) coordinating land, oceanic, and atmospheric remote-sensing systems, including ground stations;

(B) coordinating research and development, applications, and commercial remote-sensing activities;

(C) fostering effective integration of satellite, aerial, and in situ data; and

(D) assessing current institutional arrangements for the management, exploitation, and sharing of both real-time and archived data;

(2) provide recommendations on the conduct of cooperative test and applications demonstration projects designed to manage environmental pollution and the use of natural resources; and

(3) coordinate with the United States Global Change Research Program on issues of mutual concern.

SEC. 127. DEFINITION. 42 USC 2465a note.

For purposes of this title, the term "Administrator" means the Administrator of the National Aeronautics and Space Administration.

TITLE II—LAUNCH SERVICES PURCHASE

Launch Services Purchase Act of 1990.

SEC. 201. SHORT TITLE. 42 USC 2451 note.

This title may be cited as the "Launch Services Purchase Act of 1990".

SEC. 202. FINDINGS. 42 USC 2465b.

The Congress finds that—

(1) the United States commercial launch industry is technically capable of providing reliable and cost efficient access to space and is an essential component of national efforts to assure access to space for Government and commercial users;

(2) the Federal Government should encourage, facilitate, and promote the United States commercial launch industry, including the development and enhancement of commercial launch facilities, in order to ensure United States economic preeminence in space;

(3) the interests of the United States will be served if the commercial launch industry is competitive in the international marketplace;

(4) commercial vehicles are effective means to challenge foreign competition;

(5) the use by the Federal Government of performance specifically in lieu of detailed specifications relating to vehicle design, construction, and operation will facilitate the efficient operation of the United States commercial launch industry;

(6) the procurement of commercial launch services in a commercially reasonable manner permits a reduced level of Federal Government regulation and oversight and economies of scale which may result in significant cost savings to the commercial launch industry and to the United States.

(7) it is the general policy of the Federal Government to purchase needed goods and services, including launch services, from the private sector to the fullest extent feasible; and

(8) predictable access to National Aeronautics and Space Administration launch markets would encourage continuing United States private sector investment in space and related activities.

42 USC 2465c.

SEC. 203. DEFINITIONS.

For the purposes of this title—

(1) the term "commercial provider" means any person providing launch services, but does not include the Federal Government;

(2) the term "launch services" means activities involved in the preparation of a launch vehicle and its payload for space transport and the conduct of transporting a payload;

(3) the term "launch vehicle" means any vehicle constructed for the purpose of operating in, or placing a payload in, outer space; and

(4) the term "payload" means an object which a person undertakes to place in outer space by means of a launch vehicle, and includes subcomponents of the launch vehicle specifically designed or adapted for that object.

42 USC 2465d.

SEC. 204. REQUIREMENT TO PROCURE COMMERCIAL LAUNCH SERVICES.

(a) IN GENERAL.—Except as otherwise provided in this section, the National Aeronautics and Space Administration shall purchase launch services for its primary payloads from commercial providers whenever such services are required in the course of its activities.

(b) EXCEPTIONS.—The National Aeronautics and Space Administration shall not be required to purchase launch services as provided in subsection (a) if, on a case by case basis the Administrator of the National Aeronautics and Space Administration determines that—

(1) the payload requires the unique capabilities of the space shuttle;

(2) cost effective commercial launch services to meet specific mission requirements are not reasonably available and would not be available when required;

(3) the use of commercial launch services poses an unacceptable risk of loss of a unique scientific opportunity; or

(4) the payload serves national security or foreign policy purposes.

Upon any such determination, the Administrator shall, within 30 days, notify in writing the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate of the determination and its rationale.

(c) NATIONAL AERONAUTICS AND SPACE ADMINISTRATION LAUNCH VEHICLES.—Launch vehicles shall be acquired or owned by the National Aeronautics and Space Administration only—

(1) as required under circumstances described in subsection (b); or

(2) by the National Aeronautics and Space Administration for conducting research and development on, and testing of, launch technology.

(d) PHASE-IN PERIOD.—Subsections (a) and (c) shall not apply to launch services and launch vehicles purchased by the National Aeronautics and Space Administration before the date of enactment of this Act.

(e) HISTORICAL PURPOSES.—This title shall not be interpreted to prohibit the National Aeronautics and Space Administration from acquiring, owning, or maintaining launch vehicles solely for historical display purposes.

SEC. 205. PURCHASE OF LAUNCH SERVICES. 42 USC 2465e.

(a) FULL AND OPEN COMPETITION.—(1) Contracts to provide launch services to the National Aeronautics and Space Administration under section 204 shall be awarded on the basis of full, fair, and open competition, consistent with section 2304 of title 10, United States Code, and section 311 of the National Aeronautics and Space Act of 1958. Government contracts.

(2) The National Aeronautics and Space Administration shall limit its requirements for submission of cost or pricing data in support of a bid or proposal to that data which is reasonably required to protect the interests of the United States.

(b) SPECIFICATION SYSTEMS.—Reasonable performance specifications, not detailed Government design or construction specifications, shall be used to the maximum extent feasible to define requirements for a commercial provider bidding to provide launch services. This subsection shall not preclude the National Aeronautics and Space Administration from requiring compliance with applicable safety standards.

SEC. 206. OTHER ACTIVITIES OF THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION. 42 USC 2465f.

(a) COMMERCIAL PAYLOADS ON THE SPACE SHUTTLE.—Commercial payloads may not be accepted for launch as primary payloads on the space shuttle unless the Administrator of the National Aeronautics and Space Administration determines that—

(1) the payload requires the unique capabilities of the space shuttle; or

(2) launching of the payload on the space shuttle is important for either national security or foreign policy purposes.

(b) REPORT.—By March 15, 1991, the Administrator, in consultation with the Office of Federal Procurement Policy, shall submit to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a report outlining the minimal requirements for documentation and other administrative data needed to procure launch services in a commercially reasonable manner, including—

(1) the need for data to integrate a payload with a launch vehicle;

(2) the need for data to carry out mission-specific modifications to the launch vehicle;

(3) the need for notification to the National Aeronautics and Space Administration of changes, delays, or difficulties in the construction or preparation of a launch vehicle that may affect the delivery of its payload to its destination at the time and under the conditions provided for under the contract between the United States and its contractors;

(4) the need for data to protect public health and safety; and

(5) the need for cost or pricing data for the fulfillment of a contract.

Approved November 16, 1990.

LEGISLATIVE HISTORY—S. 2287:

SENATE REPORTS: No. 101-455 (Comm. on Commerce, Science, and Transportation).

CONGRESSIONAL RECORD, Vol. 136 (1990):

Oct. 24, considered and passed Senate.

Oct. 25, considered and passed House.

Public Law 101-617
101st Congress

An Act

To provide a method of locating private and Government research on environmental issues by geographic location.

Nov. 16, 1990
[S. 3069]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

Environmental Research Geographic Location Information Act.
42 USC 4366a note.

SECTION 1. SHORT TITLE.

This Act may be cited as the "Environmental Research Geographic Location Information Act".

SEC. 2. FINDINGS.

42 USC 4366a note.

The Congress finds that—

(1) at present, there is no reliable method of locating private or Government research on environmental issues by geographic location; and

(2) a means of identifying environmental research conducted at specific geographic locations is needed for purposes such as detecting trends in environmental quality, assisting the public in learning about the quality and issues of their local environment, and providing a data base for identifying areas of critical environmental concern.

SEC. 3. PURPOSE.

42 USC 4366a note.

The purpose of this Act is to develop a data base of environmental research articles indexed by geographic location.

SEC. 4. ENVIRONMENTAL PROTECTION AGENCY.

42 USC 4366a note.

(a) RESEARCH JOURNALS.—Within 6 months following the date of the enactment of this Act, and from time to time thereafter, the Environmental Protection Agency shall identify not less than 35 important environmental research journals, conference proceedings or other reference sources in which scientific research or engineering studies related to air, water, or soil quality or pollution or other environmental issues are routinely published. In carrying out the requirements of this subsection, at least 50 journals or proceedings shall be reviewed.

(b) INDEX.—(1) Within 12 months following the date of the enactment of this Act, and annually thereafter, the Environmental Protection Agency shall review the journals and other materials identified in subsection (a) and compile, maintain and publish an index of the articles contained therein during the preceding calendar year by geographic location. A copy of such index shall be made available to the Service for distribution to the public, and a copy shall be submitted to the Congress not less than 30 days prior to the date on which it is made available to the Service.

(2) Beginning 12 months after the date of the enactment of this Act, the Agency shall identify not less than 20 materials identified in subsection (a) which were published during the time period from 1970 to the year preceding enactment, and shall compile and publish

a series of indices of articles contained therein by geographic location. The time frame which each index contains should not exceed 5 years.

(c) PURCHASE OF INFORMATION.—The Environmental Protection Agency is authorized to enter into contracts or other arrangements for the acquisition of data and other information necessary for purposes of this Act.

(d) REVISING LIST.—The Environmental Protection Agency shall review the list of references developed under this section at least biennially and shall revise the list of sources as appropriate.

(e) SPECIFIC LOCATION OF RESEARCH PROJECTS.—Unless exempted by the Administrator of the Environmental Protection Agency, all reports resulting from research projects sponsored by the Environmental Protection Agency and initiated after the expiration of the 36-month period following the date of enactment of this Act shall indicate the specific location to which the research pertains.

42 USC 4366a note.

SEC. 5. AUTHORIZATIONS.

There are authorized to be appropriated such sums as may be necessary to carry out this Act.

42 USC 4366a note.

SEC. 6. EXPIRATION OF ACT.

This Act shall expire 10 years after the date of its enactment.

Approved November 16, 1990.

LEGISLATIVE HISTORY—S. 3069:

SENATE REPORTS: No. 101-541 (Comm. on Environment and Public Works).
CONGRESSIONAL RECORD, Vol. 136 (1990):
Oct. 26, considered and passed Senate.
Oct. 27, considered and passed House.